

README.DOC

A monthly newsletter of the
Orange Coast IBM PC User Group

This month's general meeting features:

**Peter Norton Computing
with the
Norton Utilities and the Norton Guides**

&

**OCIPUG's Walt Drew reviews popular tax
preparation programs**

Inside: Introducing Columnist Steve Gibson
 More Cartoons by OCIPUG's Don Taylor

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Articles may be submitted via modem to the OCIPUG BBS or on paper or an IBM format diskette (5-1/4" 360kB format preferred). We will accept them in any of several formats, although we strongly prefer "pure ASCII" files. Other acceptable formats include DCA, Microsoft Word, Multimate, WordPerfect and Wordstar. Submissions on paper should be double-spaced and typed. All items submitted for publication are subject to editing.

DEADLINE:

Articles and advertising must be received by the twentieth (20th) of the month prior to publication.

ADVERTISING:

All advertisements must be camera ready and prepaid; rates and deadlines for commercial advertisements are available on request. Classified ads are free to members, but cannot be used for business purposes. Deadline for classified advertisements is the same as for articles.

The User Group does not intend to endorse, rate, or otherwise officially comment on products available, and readers are cautioned to rely on the opinions presented exclusively at their own risk.

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README.DOC Newsletter

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Address all inquiries, editorial copy, advertising, and address changes to: *README.DOC*, P. O. Box 6100-211, Costa Mesa, CA 92628

PAST EDITOR TOM SUTRO 1985-1987

Advertising Policy

Members are allowed to place an advertisement for personal items in the *README.DOC* newsletter at no cost. There will be a limit to the amount of advertising placed in the newsletter; all submissions will be placed on a first come, first served basis.

Commercial advertisements, from members and others, is also welcomed. For information concerning advertising rates and requirements, contact:

Kathy S. Halbardier (714) 838-5206 or write to Advertising Manager, OCIPUG, P. O. Box 6100-211, Costa Mesa, CA 92628.

PURPOSE STATEMENT

The purpose of the ORANGE COAST IBM PC USER GROUP is to provide a forum for members to share information and experiences that will help other members obtain maximum benefit and enjoyment from the use of their IBM PC and compatible personal computers.

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GENERAL MEETING CALENDAR

General Meetings are held on the last Saturday of the month except in the months of May, November and December. In those months the meetings are held one week earlier because of the holiday falling near the end of each of those months. These special meeting dates are marked in the list below with an asterisk.

OCIPUG General Meeting dates for 1988

January 30th	February 27th	March 26th	April 30th
May 21st	June 25th	July 30th	August 27th
September 24th	October 29th	November 19th	December 17th

From the Publisher's Desk

Steven Dela

Our first issue using a new format is history. We've learned a lot about the publishing industry and what it takes to make a great newsletter. There were over 250 hours of work put into the January issue by many on our dedicated staff. I want to thank all of the members whose names appear in the masthead for their fine efforts. Long hours were put in by some, even working through the night, right up to the deadline. I especially want to commend the staff of editors for their hard work. Rick Halbardier, John Good-

man, Authur Boughey exercised great skill and talent to put together the last issue. Also, a special thanks go out to Dave Lorenzini and Sherry Shea for their assistance in the production of the newsletter.

As I mentioned in my last column, there will be continual growth in the newsletter over the next several months. We hope to publish valuable information and articles concerning the computer industry and how it relates to our membership and other readers of README.DOC. We will be accepting paid commercial advertising from the business community to help defray production costs. However, our main purpose will be to keep you, our members, informed.

One function of an organization such as OCIPUG is, is to help keep our membership informed as to conditions and events in the consumer marketplace. It is important that you have reliable information when you are ready to go shopping

for that new piece of hardware or software. With this in mind, the newsletter staff will initiate a new column called the VENDOR/PRODUCT INFORMATION PROGRAM (VIP) in the March issue. It will be forum for our membership to relate both positive and negative experiences about either Vendors or Products that you may have had. This program will be supervised by a committee of three or more people, independent of the README.DOC staff, to evaluate reports submitted by members. We will provide you with more information about the program at the February General Meeting.

Again, thank you to all those who contributed their time and efforts to the January issue. If you have any suggestions, please contact one of the members of the newsletter staff and we'll be happy to talk with you.

From the Editor

Rick K. Halbardier

If you've ever been confused by downloading a program from a BBS (Bulletin Board System) or receiving a program from a friend and not knowing what the program does or how it works, then I would like to explain the use of a "Readme.Doc" file and how OCIPUG arrived at this name for the newsletter.

Going back in time, the year was 1981, IBM has just introduced the IBM PC XT an 8088 based system with 64 KB of RAM on the mother board. Instantly the computer market changed over night, programmers went from writing very long and tedious programs on large mainframe computers to a tiny little box that sits on the corner of a desk.

In the beginning there were not alot of programs to run on these little box computers, but it did not take long for the whole reevaluation to begin. Soon there were programs spurling up everywhere, they had everything from programs that helped you with your taxes to game

programs for the kids.

Suddenly people started acquiring programs that they would load into there computers only to soon find out that they had no idea how to execute or use the program.

While in the early stages of this computer era, an unknown person devised a simple yet practical and effective way of letting the end user find out how a program works. That was when the "Readme.Doc" file became part of the PC World of programming, allowing users to be able to find out in detail: who wrote the program, what the program is about, and how the program works.

When OCIPUG began in the early part of 1985, the newsletter was simply called the (Orange Coast IBM PC User Group Monthly Newsletter,) in the beginning part of 1986 the board of directors decided to hold a contest to find a more appropriate name for the newsletter. Over the next few months many entries were received and kept track of in the middle part of 1986 the board had a vote and decided to go with the name "Readme.Doc" as the official name for the newsletter, although the person that recommended this name for the newsletter has never been revealed, we are all happy that he or she took the time to send the suggestion in.

BUSINESS SPONSORSHIP PROGRAM

We at Orange Coast IBM PC User Group, wish to thank the following company for their sponsorship. This will enable us to better serve our members by providing the necessary support through donations such as this.

ROCKBOTTOM Computers

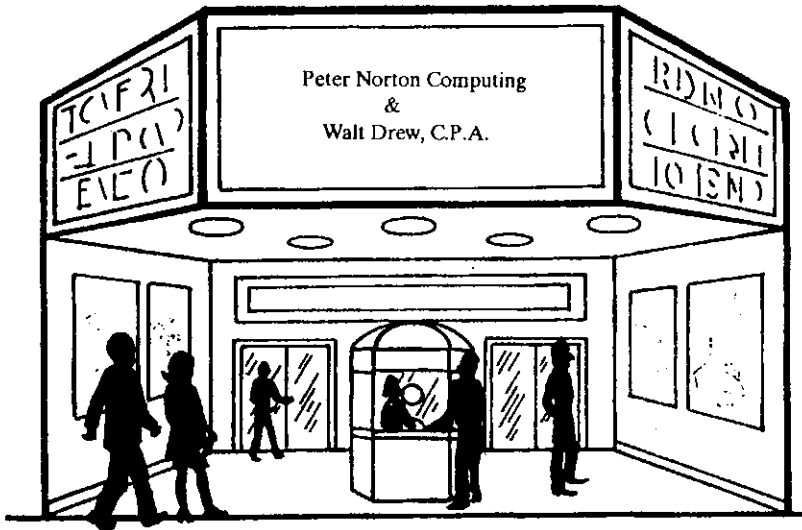
Westminster, California

If you or your business would like more information on this program, please give one of the following people a call:

Steven Dela 775-8373

Rick Halbardier 838-5206





Walt Drew, OCIPUG
Treasurer and C.P.A.

**Saturday 27 February 1988, 9 a.m. to Noon at
Orange Coast College in the Lecture Hall of
the Science Building**

If you want to know how your computer works, and gain some idea of what you can do if you delve into its software or the hardware mysteries that lie unseen within its box, the Norton Utilities are for you. If you make a slip and wipe some vital entry from your disk, the Norton Utilities are waiting there to rescue you. The veterans amongst us will remember when these first appeared, a rather mixed collection incorporating some public domain programs bundled along with original and highly innovative products from the author himself. They were always useful. Today they have become polished, sophisticated and well-nigh indispensable tools for PC users at all levels. Peter Norton may have more day-to-day influence on our computer lives than any other single person in the com-

puter industry.

Craig Lane and J.J. Schoch from Norton Utilities will demonstrate the Norton Utilities and the Norton Guides to better programming. Craig Lane has worked for Norton Utilities for

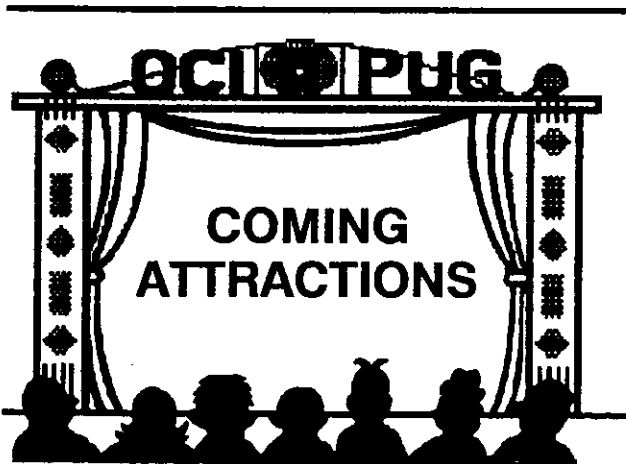
**Have fun doing your tax return? Now
wouldn't that be novel!**

two years as sales analyst, J.J. Schoch has recently joined them. We look forward to hearing this first-hand account of the now greatly expanded products of the Norton Utilities.

After this OCIPUG Treasurer Walt Drew, a Certified Public Accountant and partner in the firm of Seidman & Seidman, will demonstrate

Chip Soft's Turbo Tax and Bammel Software's Shar-Tax/1040, two programs to assist in the preparation of your federal income tax return. Walt will present the 1987 tax year versions of these programs, the year when supposedly the majority of us are promised a lower level of tax than ever before. Well at least before we got to where we are now. Walt says he will "help members who wish to do their own returns do them more easily, or at least have more fun." Fun doing your tax return? Now wouldn't that be novel!

We will conclude as usual with Library and Sig announcements, Random Access and a raffle.



FUTURE MEETING TOPICS

Here are some of the topics which you can be looking forward to hearing about at future OCIPUG general meetings:

- Word Perfect 5.0
- Microsoft's Excel
- Microsoft on OS/2
- Borland's Quatro
- the PFS series of programs
- Harvard Graphics
- Hewlett-Packhard's Laser Jet printer
- Lotus 1-2-3 version 3 and 1-2-3 add-in programs
- Xerox's Ventura Publisher

The program committee is hard at work setting up these and other excit-

ing subjects and several stellar presenters. Keep tuned for the details.

Also please note that these programs are being planned for YOU. The program committee is interested in what you would like to see presented. You can join them in their deliberations, or you can simply tell them what you want to see and hear about. Either way, please get in touch with our program chairman, Tim Smith. You can send a note to him on the club BBS, leave a voice message on our telephone answering machine (714-898-7998), catch him at one of our meetings, or call him at 714-493-2138.

REPORT ON JANUARY 1988 OCIPUG GENERAL MEETING

Linda Leydekkers

President Stan Sabin opened the meeting and introduced Steve Dela the new README.DOC publisher. Steve acknowledged all the contributors to the new look of the README.DOC. We seek advertisers to help defray increased production costs. If your company or any other company you know would like more information about the advertizing, please contact Steve Dela. Tim Smith circulated a survey for the members to complete, providing the opportunity to rate each meeting attended in the last year. This will be used in planning future programs. He then introduced the first speaker, Roger Andelin of AST Research, in Irvine. Roger is a graduate of UC Irvine and has held three positions over the last ten months with AST. Starting in Tech Support he moved into Product Marketing where he taught training classes for sales in expanded memory. Recently, he has been in product management with the PC and XT memory, the PC and XT six pack plus, and graphics products.

Expanded memory was the mystery that Roger was trying to unravel for us at this meeting. Basically, there are four major processors in the computer industry today, the 8086, 8088, 80286, and 80386. To explain the concept of expanded memory, Roger used the example of an apartment building in which there are one hundred apartments that can be addressed 0 to 99: two digits only. Later, a larger apartment complex is contracted to accommodate four digit address codes from 0 to 9999. Still later a larger complex is needed and is contracted to build five digit addresses to number 100,000 unique apartments 0 to 99,999.

This analogy was used to illustrate the differences between the four CPU chips. Each has a given number of address bits. In the 8088 there are twenty (in binary numbers). These twenty provide 1Mb of unique addresses, about one million forty eight thousand bytes (the binary number 20 expressed in decimal as two to the twentieth power).

In the 286 world, there are 24 address bits; they can address 16 Mb of memory. With the 386 chip there are even more. Unfortunately, DOS imposes a limit on the RAM memory of 640K for programs, with a 1Mb limit to DOS. In the late 1970's and early 1980's this was considered a great deal of memory, we have now well surpassed that and demand more. The 384K left over that DOS can access was reserved by IBM (aptly called reserve memory) and was

used for ROM BIOS. If you have BIOS on a graphics card along with memory on a graphics card to display images (some as much as 256K memory), this reserved memory located above 640K can be addressed. So, reserve memory is the memory between 640K and 1Mb. Many AT's come with 1Mb of memory chips. The 384K of RAM above the 640K cannot be addressed, as will appear later.

Back in the 1980's Lotus users started getting the discouraging message "memory full." Lotus got together with Intel and Microsoft and decided to find a way to break the 640K barrier. The technique they evolved has always been known as bank switching. This is another name for expanded memory, sometimes called paged memory. Roger asked us to imagine the top of our desk. There we have a certain amount of space in which to work. This is like the 640K base memory. To put more information on the desk we need to move things off it to a book shelf, select another needed item from the shelf, and take it back to the desk. That is exactly what bank switching is. It is grabbing something momentarily unwanted from the desk, (the 640K area), sliding it off into the book shelf and bringing something from the book shelf to the desk. The expanded memory technique as outlined by Lotus, Intel, & Microsoft, EMS version 3.2, is the very first version. The desk space is the 640K base memory and the expanded memory board is the book shelf. There is a page frame, or window (think of it as your swapping window) symbolized as your in-basket on your desk. Your secretary comes in and drops all your papers into your in-basket which is divided into four sections of 16K each totaling 64K. You take the papers out of the in-basket, put them on your desk and start working on them. The only problem with this is that you are constrained by the limits of your in-basket, 64K. AST got together with a few other companies and formed a similar union, the LIM (Lotus, Intel, Microsoft) union. They devised a better way of handling expanded memory, called the enhanced expanded memory technique.

The present three techniques are EMS 3.2, the AST enhanced expanded memory and the



Gary Saxer, of Quarterdeck Office Systems, an absolutely stunning advocate for DESQview!

new EMS 4.0. The enhanced expanded memory does things a little differently. Instead of the 64K in-basket constraint, it permits, at least in theory, the swapping of the whole desk top for a new desk top full of work, thus providing very rapid paging. To achieve this it removes the one 64K page break. Page breaks and swapping can occur anywhere within the 0 to 1Mb addressable memory space. For example, on one desk top you can have a Lotus spreadsheet, on another desk top a different program needing a sort. You can pick the second program up, swap it, and bring the other one on. Thus terminate and stay resident programs can execute in expanded memory. The key difference between the early version of EMS and the enhanced version offered by AST is you have a much larger window in which you can swap. You are not constrained to 64K. EMS 4.0 is the new industry standard that has joint Lotus, Intel, Microsoft and AST specifications combined. It is basically the same

DESQview does not replace DOS.

as the AST specification that allows whole desk top switching. Code can run in expanded memory, instead of that being just a data storage area. EMS 4.0 also offers some new features like Direct Memory Access (DMA). Returning to the 384K of memory on the AT mentioned earlier, that 384K is called extended memory. This is not 0 to 640K base memory, and it is not reserve memory from 640 to 1Mb. Nor is it expanded memory which does not have an address; it cannot be addressed. The only thing left for it to be is memory that is addressable above 1 Mb all the way up to 16 Mb, the standard extended memory. DOS does not allow us really to take advantage of this. An AT permits only certain uses of extended memory, like making a RAM disk. Some programs actually use standard extended memory for special purposes, like swapping, but we can't actually make full use of it until we get into other operating systems like UNIX, ZENIX and OS/2.

From a technical aspect expanded memory works as follows, starting with the 640K on the memory board and 640K on the expanded memory board (up to 32 Mb of expanded memory under the new EMS 4.0 specification). The way that your computer actually takes advantage of multitasking is by using mapping registers (1 & 2) and a technique called back filling. This is transferring some of the memory from the system memory board to the expanded memory board.

Think of your expanded memory board as the book shelf. Mapping register 1 keeps track of what is on the book shelf and its location, and communicates this information to your computer. Mapping register 2 also points to other locations on your expanded memory board.

What that means is that you can have Lotus running a recalc of a spreadsheet and dBase

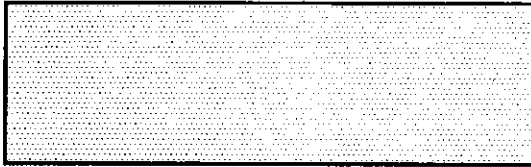
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What that means is that you can have Lotus running a recalc of a spreadsheet and dBase doing a sort on a large amount of information and the expanded memory manager is switching back and forth, giving first one register then the other instructions. In the meantime you can be using Microsoft Word for word processing. All this switching is taking place and you are not aware of what is going on.

AST standard expanded memory boards are called the **Rampage family**: *Rampage 2* for the PC XT and Model 30; *Rampage 286* for the AT and 286 compatibles; *Rampage/2-286* for the Models 50 and 60. All offer 2 Mb of memory on the board (looking to expand to 8 Mb). Based on the EMS EEMS AST design you have the hardware to bank switch all the way down from 0 to 640K and offer split memory addressing. You can back fill on the PC by taking some of the expanded memory and using it as base memory from 256K up to 640K. On the AT and Model 50 and 60 level that means you can split



your memory by using some as base memory, some as expanded memory and some as system OS/2 extended memory in whatever configuration you chose.

When you buy an expanded memory board, make sure that it also has extended memory so that if you chose not to use the expanded memory specifications (DOS), but go to OS/2 or some other operating system, you can still use your standard memory board as extended memory.

Right now in the market place not all expanded memory boards are created equal. **ASK QUESTIONS!!** Hardware that was built around the old specifications will not allow you to take advantage of multi-tasking. **BEWARE. The LIM boards are obsolete.** See the table for an overview of the hardware features available in each of the three models of expanded memory card.

The DESQview program from Quarterdeck Office Systems takes the fullest advantage of the multitasking ability. It is a good piece of software to take to your dealer to test the board for hardware features.

Some of the questions to the speaker from the floor elicited the following remarks:

1. The Rampage board only offers memory while the AST Premium Board offers, in addition to memory, I/O serial, parallel ports, clock and game port).
2. All Rampage boards and Premium boards regardless of when they came out have the hardware to run the drivers for EMS 4.0.
3. AST is extending the life of DOS with this system, so by utilizing it you are also extending the life of your present hardware and software.
4. If you don't have a board yet, a LIM board is not a good investment.

This opening address was filled with a lot of technical terms and **HEAVY DUTY** information. I know my head is still spinning. If any of you would like to

MY FINGERS NEVER LEFT MY HANDS



know more about it, or get more detail, meet with the Hardware SIG.

Gary Saxer from *Quarterdeck Office Systems* out of Santa Monica was our second speaker. Gary gave a very dynamic presentation of **DESQview 2.0**. DESQview is multitasking software for IBM PC AT XT and 100% compatibles. The idea of DESQview is to take your current off the shelf programs and run more than one at a time. If you are using Lotus why do have to shut it down to go into dBase or Word then close that down to go back to your spreadsheet in Lotus?

DESQview does not replace DOS. You must have DOS to use it. There are five programs on the menu when you install DESQview, and it comes preconfigured to work with most major programs. It will search the root directory for these automatically and install them for use with DESQview. A program not listed can be added.

This presentation was very spectacular and DESQview appears to be a most impressive program. Many members were able to scoop up copies at special prices during the break. It would be good to hear from some of these people to see if all the bells and whistles really work as easily as Gary was able to display. For the people who missed the show, contact your local retailer for a demonstration or if you have questions contact *Quarterdeck Office Systems*, 150 Pico Blvd., Santa Monica, CA 90405 (213) 392-9851.



RAFFLE

John Goodman

Our raffle keeps getting better and better. This past meeting saw the introduction of a new raffle program, written by Dan Likins. It promises to allow everyone in the room to see the numbers and names as they are selected, and it adds a countdown timer to hasten the action along.

Generous vendors and friends of OCIPUG donated ten prizes ranging from boxes of diskettes to a copies of Microsoft Works, the Norton Commander and Guides and DESQview.

At first every name drawn turned out to be someone in the room. Then, just when the prizes were getting really valuable, we came upon a spell of names of people who were not there. The longest run was 9 names of absent members, fol-

lowed by Gene Carter who, sure enough, was sitting right there in front ready and eager to win his copy of DESQview.

Next month we will be giving away programs from DayFlo, Sterling Castle, Norton (again), ChipSoft (Turbo Tax) and others. Don't miss it! Who knows, maybe you'll even win an all expenses paid tax audit. (Now wouldn't that be just wonderful?)



Feature Articles

Arthur Boughey

From this second number of the new README.DOC it will be apparent what we are about in this Features section, and our philosophy. It is our purpose to guide you down whenever necessary from the cerebral clouds of future technologies to the everyday pragmatic world of efficient PC use. We need both your approval and your support. *Please write in with your comments, hopefully constructive ones. Please submit your feature stories.*

In this issue we are pleased to bring you the first portion of a two-part article from one of the Club's two Honorary Members, **Steve Gibson**. His theme develops from and extends the review of Memory which Roger Andelin initiated in January, as outlined in the report of our last general meeting prepared by Linda Leydekkers.

Do not let these cerebral concepts discourage you. You can still be an excellent driver even though you do not know the first thing about the workings of an internal combustion engine. Whatever the level and nature of our particular skills we all use personal computers for the expression of ideas. That is, we use them in order to communicate. The information which we are trying to impart may have been stored, sorted, retrieved, calculated, projected, displayed or otherwise manipulated with the assistance of some new and sophisticated applications program or revolutionary hardware. Nevertheless, these several computer products, powerful as we may consider them, merely serve to buttress the present most-used medium of idea presentation - **the written word.**

The principal speaker at this February General Meeting, will decry the work of **Peter Norton**, best known for his major assemblage of utility programs. These notwithstanding, the great contribution which Peter has made to Personal Computing lies rather in the written expression of his ideas on the way in which computers work and can be worked. *It is in the excellence of his verbal communication skills that his uniqueness lies,* rather than in the tools which he has fashioned along the way.

In the series of feature articles we are presenting here over the next several

months we therefore make no apology for returning repeatedly to this subject of written communications. Few of us as yet are very good at it. None amongst us could fail to improve our present skill in this area by better use of the many support computer tools now available.

In the last feature article I referred to the use of *grammar checking programs* such as GRAMMATIK II. I myself use another commercial program **RIGHTWRITER**. This I prefer because it extends the analytical capacity of other grammar and style programs now on the market. It has a good manual. Following the instructions there, RightWriter installs easily on your hard disk, or can be operated from a floppy disk drive. One types RIGHT together with the name of the text file one wishes to analyze, then answers several on screen queries and reads an analytical file which is produced. Analysis of this present article in draft produced a critique with amongst other information the following lines:

READABILITY INDEX: 11.24 Readers need an 11th grade level of education to understand.

STRENGTH INDEX: 0.23 The writing can be made more direct by using: -the active voice -shorter sentences

DESCRIPTIVE INDEX: 0.60 The use of adjectives and adverbs is in the normal range.

JARGON INDEX: 0.00

SENTENCE STRUCTURE RECOMMENDATIONS:

1. Most sentences contain multiple clauses

Try to use more simple sentences

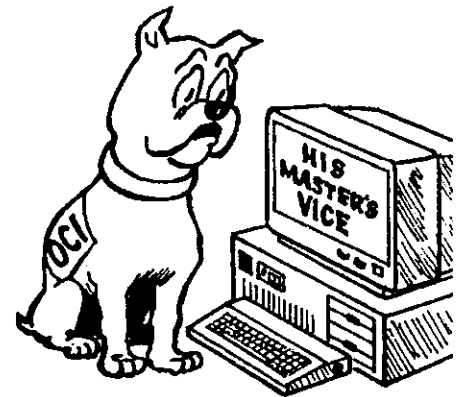
14. Consider using more predicate verbs.

WORDS TO REVIEW Review the following list for negative words (N), colloquial words (C), jargon (J), misspellings (?), misused words (?), or words which your reader may not understand (?). (Then follows a word list, with a second list of all the words used and their frequency of occurrence)

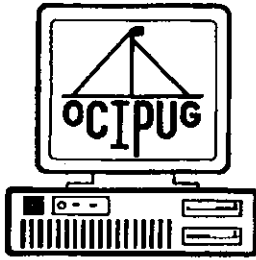
The commentary in the critique is self explanatory. Check the overuse of words from the Word Frequency List, and any misspelling which may have escaped your spell-checker program. Check the comprehension level of your addressee. *Do you write to your boss at 6th. grade level, or 14th? If you are the boss, at what level are you addressing your clients or customers? How much jargon should you include*

(there is a supplementary program which will assist in tailoring your technical expressions to your profession). How can you obtain greater impact? less jargon? fewer colloquialisms? You can go over the analytical report on the screen, make any necessary alterations then remove the commentary from the document with a Right-Writer command before saving or printing the file.

You can get further information on RightWriter by writing to RightSoft, 2033 Wood St. Suite 218 Sarasota FL 34237 or calling 813-952-9211. The use of a style program like RightWriter should give you more confidence in your own writing. You can also employ it to check how other writers score, or look at the work of those of us on the editorial board who presume to offer you advice on the subject. Anyway, whether you use such assistance or not, *please keep those articles and commentaries coming.*



Ed. Note: An article in Byte several years ago described an attempt to classify the quality of floppy disks on a basis of the nature of their surface and their capacity to retain electro-magnetic data. The author claimed there was considerable variation between makes in both respects. Readers could deduce that sometimes quality went with cost. When data transfer to floppies is examined at the bit level, as for instance when a Copy II PC board is used, it is the occasional experience with cheaper disks that given bit-transfers cannot be verified. This could be an indication that disk-read failures may occur at these spots in the future. Such failure of verification very rarely occurs with more expensive diskettes. Readers can themselves also conclude that if heads can smooth out rough spots on disks, rough disks cannot be without some effect on heads! A.B.



The Orange Coast IBM PC User Group SIG /GUIDE

A Calendar of Monthly Meetings and Events edited by Dave Lorenzini

GENERAL MEETING

TAX PREPARATION SOFTWARE reviewed by Walt Drew

Our treasurer, Walt Drew, who in the 'real' world is an accountant, will review some of the commercial and shareware programs you can use in the preparation of your income tax returns.

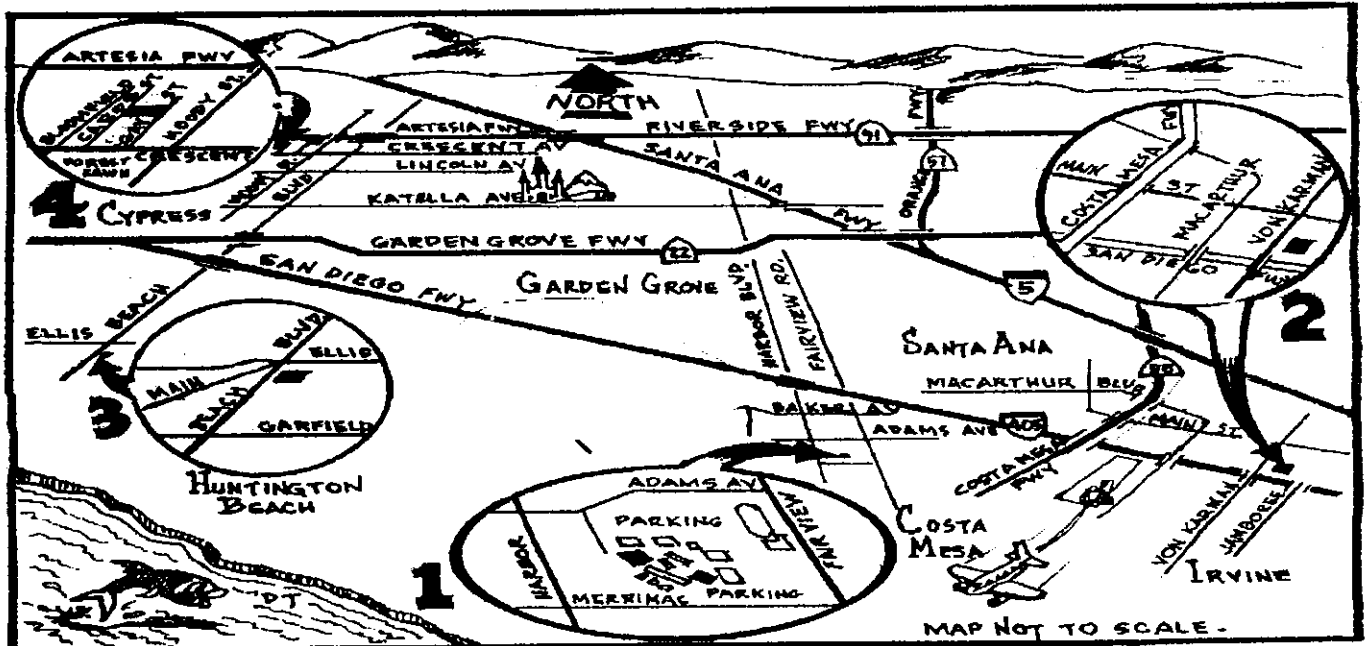
UTILITY SOFTWARE from Peter Norton Computing

One of the first, and still one of the best. Representatives of Peter Norton Computing will show us Commander, The Norton Guides, and the famous Utilities.

**Join us Saturday 26 February 1988
9:00 am at OCC Science Hall.**

LATE BREAKING NEWS

Before attending a SIG meeting or other event, you might want to check with the OCIPUG Bulletin Board or our voice Hotline at (714)898-9998 for last-minute changes in time or location.



LOCATIONS

Inset Map 1: Orange Coast College
General Meeting & WordPerfect SIG: Science Hall (next to Chemistry Bldg).
Other SIGs: Room 106, Admissions and Counseling Center (next to Fine Arts).

Inset Map 2: New Horizons Learning Center, 17900 Von Karman, Suite 100, Irvine (near Main, north of San Diego Freeway).

Inset Map 3: WEH Computers, 18682 Beach Boulevard, Suite 150, Huntington Beach (between Ellis and Garfield).

HARDWARE

Coordinator: Dan Likens (714)953-5663

This SIG includes explanations of every aspect from trouble-shooting a sick PC to designing your own home automation system. You are welcome even if you have never tried to read a schematic diagram or solder a circuit board. We'll be discussing the selection and installation of hard drives.

Thursday 24 March 1988, 7 to 10 pm, at New Horizons Learning Center [Inset map 2].

INVESTORS

Contact Person: Ralph Minarich (714)494-2209

Do you have enough investments that you want to use your PC to help track and manage them? This group explores the world of software designed especially to help investors, whether they invest in stocks, bonds, commodities or something else.

Wednesday 16 March 1988, 7 to 10 pm, at New Horizons Learning Center [Inset map 2].

MODEM

Coordinator: Terry Currier (714)774-2018
Designated Guru: Richard Sabin (714)968-3539

At this SIG you can learn how to reach out and access the whole world of information through telecommunications. Mainly designed to help beginners use modems, but this SIG also covers more advanced topics from time to time. Our focus this month will be on *GT Powercom*, another excellent communications program.

Thursday 3 March 1988, 7 to 10 pm, Orange Coast College [Inset map 1].

NETWORKING

Coordinator: Jim Mansfield (714)751-2243
Coordinator: Andy McGill (714)731-2951

The simplest way to get information from one computer to another is sometimes called "Sneaker Net." For more demanding applications you need more complex hardware and software. Come to this SIG to see a low cost (\$150 per node!) 'zero-slot' LAN operating at 115.2K baud on 6 PC's over 1000 feet of 4-wire telephone cable without using a server.

Thursday 11 March 1988, 7 to 9 pm, at the law offices of Jack Utter. The address is 2121 East Pacific Coast Highway, Suite 222, in Corona Del Mar. (This is 1 block North of MacArthur Blvd.) (714)640-8900.

NEW MEMBER / NEW USER

Coordinator: John Goodman (714)895-3195

This is a great SIG to attend first. Its meetings run on a three-month cycle, presenting an orientation to OCIPUG and then for two months giving a beginner's introduction to the IBM family of personal computers (as well as to the so-called "clone" computers). This month is number three in the cycle.

Saturday 5 March 1988, 10 to 12 am, at New Horizons Learning Center [Inset map 2].

REAL ESTATE

Contact Person: Stan Sabin (714)968-7307
Contact Person: Tom Sutro (714)650-1121

If you are a realtor and use or think you might like to use a personal computer you will really appreciate this SIG. Jointly sponsored by OCIPUG and several local Boards of Realtors of, this is one of our largest SIGs.

Tuesday 22 March 1988, 8:00 am (in the morning!), at Newport Harbor-Costa Mesa Board of Realtors, Boardatorium, 401 North Newport Boulevard, Newport Beach.

SPREADSHEET

Coordinator: John Alesi (714)770-1130
Designated Guru: Neil Carmen (714)964-1901

Learn tips and tricks from the professionals. This group covers Lotus 1-2-3 and other brands of spreadsheet programs, including shareware products. If you haven't heard of the new generation of spreadsheets such as Quattro, Excel, Surpass, and Lucid 3-D, then you're in for a surprise. We will be showing and discussing these new programs during the next few months.

Thursday 1 March 1988, 7 to 10 pm, at New Horizons Learning Center [Inset map 2].

WORDPERFECT

Coordinator: Katherine Thomson (714)552-3404

According to a recent issue of PC Magazine, WordPerfect is the best selling word processor. It is both suitable for beginners and capable of serving the needs of a demanding business. There is a lot to learn if you wish to master all that this program can do. Come to this SIG and see demonstrations ranging from simple editing to new ways to make your work more productive.

Saturday 26 March 1988, 12:15 to 2 pm, at OCC Science Hall (after the general meeting).

ACCOUNTING

Coordinator: Ed Halsted (714)840-7027
 Coordinator: Karen Swanson (714)846-2059

Come to this SIG if you want to know more about how to use your PC in a small business or home accounting application. Also come if you are an expert in these matters and are willing to share that knowledge with others.

Monday 21 March 1988, 7 to 10 pm, Orange Coast College [Inset map 1].

BBS SUPPORT

Contact Person: Richard Sabin (714)963-1324

The system operators (SYSOPs) need help! At this SIG we will give you an insider's view of running a BBS and you can help us sort through all the uploaded files we get. Bring blank disks and take home copies without needing to download them!

Monday 14 March 1988, 7 to 10 pm, at New Horizons Learning Center [Inset map 2].

C LANGUAGE

Coordinator: Mark Roberts (714)951-2193

Learning to program in C? Wonder what it is? Or maybe you love to "hack" C code. Come and share your knowledge, curiosity and enthusiasm. We will be beginning our C tutorial.

Tuesday 15 March 1988, 7 to 10 pm, at New Horizons Learning Center [Inset map 2].

CAD/GRAPHICS

Coordinator: Dave Carroll (714)775-3130
 Designated Guru: Dave Lorenzini (714)852-8663

CAD (Computer Aided Design) comes in many "flavors." This group focuses on architectural CAD, especially AutoCAD, but they also explore other CAD programs as well as specialized hardware of interest to practitioners in this area. We will continue to review low cost drafting programs such as Generic Cad

Thursday 10 March 1988, 7 to 10 pm, at New Horizons Learning Center. [Inset map 2]

DATABASE

Coordinator: Bob Schmiedeke (714)536-1178

Everyone uses data. Some of us have so much we need programs to help us store and manipulate that data. Come to this group to learn more about those programs, especially dBASE. Programming in database languages is also covered. Join us as we cover low-cost database programs such as Rapidfile.

Tuesday March 8 1988, 7 to 10 pm, at New Horizons Learning Center [Inset map 2].

DESKTOP PUBLISHING

Coordinator: Richard Villa (213)439-8110

Preparing attractive documents is the primary purpose of Desktop Publishing. At this SIG you will have a chance to have hands-on experience with several different vendor's hardware and software products for this field. We hope to get a sneak preview of the new Pagemaker.

Wednesday 2 March 1988, 7 to 10 pm, held at WEH Computers [Inset map 3].

DOS

Coordinator: Jack Vogel (714)641-0659
 Designated Guru: John Goodman (714)895-3195

Nearly all of us run the program DOS (Disk Operating System) every time we turn on our PCs. Come to this group to learn more about how it works and how to get it to do what you want or need. Also covered in this SIG are programming languages (e.g., BASIC and Assembler) and other operating systems (e.g., Xenix). In March we will be covering many topics and conduct an extended "Random Access."

Wednesday 9 March 1988, 7 to 10 pm, at Orange Coast College [Inset Map 1].

EDUCATORS

Coordinator: Anne Perrah (714)995-2054
 Coordinator: John Lunsford (714)995-0947

Computers hold out great promise for affecting the way we teach and learn. This SIG is a meeting ground for people interested in this subject from a number of different perspectives, including hardware developers, program authors, and teachers who will use their products. At the March meeting Roxanne Morris, a consultant to the Orange County Department of Education, Technology and Resources Department, will share with us some of the work she does for them and brainstorm on ways we and they might work together.

Thursday 17 March 1988, 7 to 10 pm, at Montessori Children's Home [Inset map 4].

MARCH 1988

SUN	MON	TUE	WED	THU	FRI	SAT
		1 7pm Spreadsheet New Horizons	2 7pm Desk/Pub WEH Computers	3 7 pm Modem OCC, Admin. & Counsel, Bldg. #106	4	5 10 am to Noon New Users New Horizons
6	7 6:30 Board Meeting UAC	8 7pm Dbase New Horizons	9 7 pm DOS OCC, Admin. & Counsel, Bldg, #106	10 7pm CAD New Horizons 7 pm Network- ing TBA	11	12
13	14 7pm BBS Support New Horizons	15 7pm C Lan- guage New Horizons	16 7pm Investor New Horizons	17 Educators Montessori Children's House, Cypress	18	19
20	21 7 pm Accounting OCC, Admin. & Counsel, Bldg, #106	22 8am Real Estate NH-FV Board	23	24 7pm Hardware New Horizons	25	26 9 am OCIPUG General Meeting, OCC Science Hall 12:15 WordPerfect
27	28	29	30	31		

FEBRUARY 1987

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28	29					

APRIL 1988

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24	25	26	27	28	29	30

SPECIAL INTEREST GROUPS

FEBRUARY SCHEDULE

SPREADSHEET - John Alesi - Coordinator (714) 770-1130
 (Lotus 123) - Neil Carman - Designated Guru (714) 964-1901
 Tuesday February 2 - 7:00 pm to 10:00 pm
 at the New Horizons Computer Learning Center,
 17900 Von Karman, Suite 100,
 Irvine (near Main, north of San Diego freeway)

DESKTOP PUBLISHING
 - Richard Villa - Coordinator (213) 439-8110
 Wednesday February 3 - 7:00 pm to 10:00 pm
 WEH Computers. 18682 Beach Blvd. Suite #150
 Huntington Beach between Ellis and Garfield

MODEM - Terry Currier - Coordinator (714) 774-2018
 - Richard Sabin - Designated Guru (714) 963-1234
 Thursday February 4 - 7:00 pm to 10:00 pm
 Orange Coast College,, 2701 Fairview Road, Costa Mesa.

NEW USERS - John Goodman Coordinator (714)895-3195
 Saturday February 6 - 10:00 am to 12:00 noon.
 New Horizons Computer Learning Center, 17900 Von Karman,
 Suite 100, Irvine (near Main, North of the S. D. Frwy)

BBS SUPPORT - Richard Sabin Contact Person (714) 963-1234
 Monday February 8, 7:00 pm to 9:00 pm
 at the New Horizons Computer Learning Center,
 17900 Von Karman, Suite 100
 Irvine (near Main, north of San Diego freeway)
 Administration and Counseling building, Room #106

DATABASE - Bob Schmiedeke - Coordinator (714) 536-1178
 Tuesday February 9 - 7:00 pm to 10:00 pm
 at the New Horizons Computer Learning Center,
 17900 Von Karman, Suite 100,
 Irvine (near Main, north of San Diego freeway)

DOS - Jack Vogel - Coordinator (714) 641-0659
 - John Goodman - Designated Guru (714) 895-3195
 Wednesday February 10 - 7:00 pm to 10:00 pm
 Orange Coast College, 2701 Fairview Road, Costa Mesa.
 Administration and Counseling building, Room #106

CAD - Dave Carroll - Coordinator (714) 775-3130
 - Dave Lorenzini - Designated Guru (714) 852-8663
 Thursday February 11 - 7:00 pm to 10:00 pm
 at the New Horizons Computer Learning Center,
 17900 Von Karman, Suite 100,
 Irvine (near Main, north of San Diego freeway)

NETWORKING - Jim Mansfield - Coordinator (714) 751-2243
 Thursday February 11 - 7:00 to 10:00
 Coastline Community College, Costa Mesa Center, Room 11
 2990 Mesa Verde Dr East (west end of Baker)

ACCOUNTING - Ed Halsted - Coordinator (714)840-7027
 - Karen Swanson - Coordinator (714)846-2059
 Monday February 15 - 7:00 to 10:00
 Orange Coast College, 2701 Fairview Road, Costa Mesa.
 Administration and Counseling building, Room #106

C Language - Mark Roberts - Coordinator (714) 951-2193
 Tuesday February 16 - 7:00 pm to 10:00 pm
 New Horizons Computer Learning Center, 17900
 Von Karman, Suite 100, Irvine (near Main, north of S. D. frwy.)

INVESTORS - Ralph Minarich - Contact Person (714) 494-2209
 Wednesday February 17 - 7:00 pm to 9:00 pm
 at the New Horizons Computer Learning Center,
 17900 Von Karman, Suite 100,
 Irvine (near Main, north of San Diego freeway)

EDUCATORS - Anne Perrah (714) 995-2054
 - John Lunsford (714) 995-0947
 Thursday February 18 - 7:00 to 10:00
 Montessori Children's House,
 8271 Gay Street, Cypress,

REAL ESTATE - Stan Sabin Contact Person (714) 968-7307
 - Tom Sutro Contact Person (714) 667-7000
 Tuesday February 23 - 8:00 am (in the morning!)
 Location To Be Announced.

HARDWARE - Dan Likins - Coordinator (714) 953-566
 Thursday February 25 - 7:00 pm to 10:00 pm
 at the New Horizons Computer Learning Center,
 17900 Von Karman, Suite 100
 Irvine (near Main, north of San Diego freeway)

WORD PERFECT
 - Katherine Thomson - Coordinator (714) 552-3404
 Saturday February 27 - after the OCIPUG General Meeting
 in the O. C. College Science Building Lecture Hall

Please call the OCIPUG HOT LINE if you have questions about a meeting location
(714) 898-7998

EVERYTHING YOU EVER WANTED TO KNOW ABOUT FLOPPY DISKS

Ted Jensen

Ed. Note: *An article in Byte several years ago described an attempt to classify the quality of floppy disks on a basis of the nature of their surface and their capacity to retain electro-magnetic data. The author claimed there was considerable variation between makes in both respects. Readers could deduce that sometimes quality went with cost. When data transfer to floppies is examined at the bit level, as for instance when a Copy II PC board is used, it is the occasional experience with cheaper disks that given bit-transfers cannot be verified. This could be an indication that disk-read failures may occur at these spots in the future. Such failure of verification very rarely occurs with more expensive diskettes. Readers can themselves also conclude that if heads can smooth out rough spots on disks, rough disks cannot be without some effect on heads! A.B.*

So, you've just spent 400 bucks for that super piece of software, made your back-up and are working away with your working copy. Suddenly, while you are running a relatively unimportant utility program on another disk, your disk goes bad. This is not a major problem. You have a back-up somewhere, but it gets you to thinking about your back-ups on your commercial programs. *What happens if they go bad? Should you have made them on some type of premium diskette to guard against that?* You scour through catalogs and ads in magazines. There are sources galore for diskettes, at all prices, and some of them even have specifications. You run into one spec called "Clipping Level" and the supplier claims that because his disks have been tested to a higher clipping level they are superior. *Should you pay a premium for disks with superior specifications? What do these specs mean? Will your back-ups be less likely to fail if you use premium discs?* These are difficult questions to answer. Perhaps an explanation of some of the tests run on disks, and what can happen to your back-ups with time, would help you make that decision. In addition, you may be interested in considering the cost tradeoffs of using higher priced disks. As an engineer with many years of experience in magnetic recording I had never heard

of the term "clipping Level" until it came up in a discussion on KAY*FOG. In fact, I had never seen a specification sheet in any box or bag (**I buy the cheap stuff by mail order too!**) of disks I have purchased. However, I did spend a couple of years as a part of a design team on a Winchester Drive for personal computers and one of my tasks was the specification and testing of the disks used in those drives.

CLIPPING LEVEL: Since magnetic media is pretty much the same whether it is tape, diskettes, or hard disks (the major difference being that the material to which the magnetic particles are bonded is mylar for tape and diskettes, and aluminum for the hard disks), it wasn't difficult for me to guess at what was meant by "clipping level." A little looking through a parts catalog and I found a specification on a chip designed for use in disk drives and they defined "clipping level" (although in rather vague terms). *It is unfortunate that these words are used to describe a test performed on diskettes since they have a different and more widely understood meaning throughout the general electronics industry.* In any case we will have to accept these words since they are the ones used in the advertisements. In simple terms, your drive uses a "head" to read the information on the disk. You can think of this as being like the needle and pick-up on your phonograph. *The head reads the magnetic information previously written on your disk and converts it into an electrical signal.*

This signal is further processed and eventually takes on a form suitable for transmission to your computer as bits, or bytes, which represent the data.

SIGNAL VARIATION: The size and shape of the electrical signal developed by the head varies for many reasons. *First of all, it varies as a result of the information written on the disk, and this variation itself represents that information.* However, there are other variations which take place due to imperfections in the head, the

mechanical characteristics of the drive, or imperfections in the diskette. *These variations, if large enough, will lead to the electronics in the drive not being able to correctly decode the information, and your computer will indicate by means of some error message that it cannot read the disk. It is therefore important to keep these variations (those not part of the data) at a minimum.*

COATING THICKNESS: Magnetic diskettes or tapes are manufactured by bonding magnetic particles to a flexible mylar backing material. Characteristics which affect the performance of the final product include, but are not limited to, the magnetic characteristics of the particles, the size of the particles [Note: it is **modification of these two characteristics that make the difference between a 1.2M disk and a 360K disk.**], the thickness of the coating, and, most important to the subject of "clipping level," the uniformity of the coating. If a tiny part of the disk, the size of a pin-hole, does not get coated, the signal level recoverable from that spot is reduced.

Thus, if there are a number of these of sufficient size, the level of the signal will be fairly uniform until that "pin-hole" passes under the head, at which point it will drop. These are referred to as "drop-outs" in the industry. *Furthermore, if the coating thickness varies over the surface of the disk, the amplitude of the signal can vary in a relatively smooth manner as the disk rotates.* This is generally not a serious problem, however. Your drive can recover your data by separating these disk related variations from the variations in signal due to the real data; provided that disk related variations are not too large. Typically a drive might be able to successfully ignore disk related variations which did not reduce the amplitude of the real signal to less than 30% of the normal output. This number, however, also depends on a wide variety of factors, and varies from drive to drive, even the same model from the same



drive, even the same model from the same manufacturer. Thus, anything one could do to assure that the level of these disk-related variations are held within a specified range should reduce the probability of errors. The key word is "probability," and more will be said about this later. Therefore a disk which is tested to a "clipping level" of 60% is tested to assure that the variations due to the disk are small enough that the signal level never drops below 60%. That is, the variations are held to a range between a 60% and 100%. It follows that the higher the "clipping level," the less variation in signal output and the reduced probability of a disk error. Now comes the tough part. How much extra money should you pay for a disk tested to a 60% level as compared to one tested to a 40% level? Would you pay 50% more? Twice as much? Ten times as much? The way I look at it is this: *There is a high probability that if I buy 25 or 50 brand X disks and they all work, whatever tests were run on them were probably sufficient to assure me that brand X disks will always work.* I have no way of knowing what "clipping level" disks destined for my drives should be tested at, nor, do I believe, do the manufacturers of floppy disks. **A WORD ABOUT HARD DISKS:** In the case of Winchester drives, the situation is a little different. The manufacturers of the disks which go in these drives are generally different companies than those that manufacture the drives. The drive manufacturer imposes specifications on the disk manufacturer. Furthermore, the drive manufacturer continually tests disks using sophisticated equipment to be sure that the disk manufacturer meets these specifications. That is, *people who manufacture disks for use in hard drives do not sell them directly to the end user* (removable hard disks being the exception).

BOTTOM LINE \$\$\$: But, back to floppies. Assume I buy 100 diskettes from each of two sources, *SuperDisk* and *CheapDisk*. Assume I pay 40 cents each for the *CheapDisks* and \$2.00 each for the *SuperDisks*. Finally, out of all the disks I bought, one *SuperDisk* won't format and 10 *CheapDisks* won't format. *I have ended up paying slightly over \$2.00/disk for the good SuperDisks and about 45 cents each for the good CheapDisks.* I still think I got a better buy on the *CheapDisks*.

MORE USE -- BETTER PERFORMANCE: Now, what about disk failures in the future? That is *as I use these 90 CheapDisks are they more likely to fail in the future than the 99 SuperDisks?* Well, I suppose there are those who would argue with me that in fact they would. But I really don't believe it. The reason is that *the first few times I use any diskette its performance will improve.* The surface of the disk is left slightly rough (not on purpose) during the manufacturing process and this process prevents good contact between the head and the disk. This poor contact degrades performance of the disk. *As the disk is used and rotated past the head, the head*

knocks off some particles of the coating, smoothing the surface and improving the contact and the performance. In tape recording, in critical applications, new tape is never used without running it through a machine at least once and sometimes several times, just for this reason. Therefore, after I have used my *CheapDisks* several times I feel more comfortable with them than when they were brand new. **HOW LONG WILL THEY LAST?** Finally, what about the really long term? *Will CheapDisks retain the information stored on them equally as well as SuperDisks, say over a period of 100 years?* Well, here we are dealing with real unknowns. There are no disks around that are a hundred years old. Magnetic recording using media of the type used in disks is only about 40 years old. Archival data that has been around for long periods of time has turned out to be a problem in a number of fields. Ask a librarian about the problems facing the Library of Congress in protecting many of its books. There has been some experience with magnetic recording in general that may be of interest. In tape, such as your audio or video cassettes, or computer tape as used on large main frames, there is a problem with long term storage known as "print through". The magnetic pattern on the tape representing the information emanates a magnetic field, just as the North and South Poles do. This field is very minute, but still present, and any material susceptible to being magnetized will do so in the presence of a magnetic field. This is true even for weak fields if the material is held still within the field for long periods of time. All tape is susceptible to being magnetized, that is its prime purpose in life. When wound on a reel, each piece of tape is tightly pressed against another one, and each piece emanates a field. If the tape is left untouched in this form for several years, a little of the information recorded on each piece is transferred to mix with the information on the adjacent piece. In audio tapes one can hear this as a low level background of the same music that played either a few seconds earlier or a few seconds later, particularly where a loud passage is immediately followed by a quiet one. Normally disks have a jacket around them that is fairly thick. Thus it is unlikely that print through would take place between disks. On double sided disks however, the magnetic information on one side is pretty close to that on the other side, the distance being in the same range as that previously discussed in the case of tape on a reel. *If I were to make a guess at the first cause of long term failure, in the sense of not being able to recover 100% of the material from a floppy, I would guess that "print through" would be the cause.*

RE-COPY YOUR FLOPPIES: Someone once raised the question of whether it makes sense to re-copy masters or back-ups from time to time to make new backups. My initial reaction was that I didn't think it was worthwhile. Having given it some thought, however, it

might not be a bad idea. If there is a degradation that takes place with time on an untouched back-up as it sits on the shelf, re-copying does in fact restore the information to a more pristine state and thus acts as added protection against the probability of losing your data. *As to SuperDisks being any better than CheapDisks in an archival sense, I can think of no reason why there should be any difference, but perhaps we won't know the answer to that for another 100 years.* **HOW COME ARE SUPERDISKS SO CHEAP?** There are a lot of reasons *SuperDisks* sell for more than *CheapDisks*. They spend more on advertising, and packaging, and possibly corporate headquarters. They sell primarily to companies which avoid buying anything by mail or from some post office box across the country. They sell at the price they do because people are willing to pay for it, whatever the reason. In fact, however, if you look into it you will find that most of the people selling the cheaper diskettes are buying their raw material from the same sources as those selling the expensive versions. The whole thing about mass produced products, whether it is disks, drives, computers, or light bulbs, is that they are mass produced on a statistical basis. That is, costs are reduced to the point where the probability of a bad one getting to the user is acceptably low. This is simply good business. No company can stay in business if it strives for perfection in a commercial product. Only governments can afford products which have been tested to the level of a space shuttle and as we found out even they are not perfect. **Personally I have always bought the least expensive disks I could find.** Furthermore, I use single sided, single density diskettes and use them in double sided, double density drives with no problem. On one occasion, I paid over \$25.00 for a box of 10 diskettes. It was a *Sunc* I needed them, and they were the only ones I could find. One of the disks in that box proved to be the first bad disk I ever ran into! One last comment on probabilities. If the probability of a given disk failing is one in 1,000 under whatever circumstances, the probability of two failing under the same circumstances is one in 1,000 times 1,000, or one in 1,000,000. Anyone for making two 45 cent back-ups instead of one \$2.00 back-up? Note: I have taken some liberties in the preceding article in the interests of keeping it from becoming overly technical, but do not believe these affect the substance of the arguments for purchasing lower cost disks. Also, I was not able to find detailed information on the testing of diskettes in the literature and much of the above is based on extending my experience from tape and hard disks to diskettes. I would appreciate it if anyone having more information on the subject, or finding inaccuracies within the article contact me either through KAY*FOG PCB (415)285-2687 or by mail: P.O. Box 324, Redwood City, CA 94062.

*Reprinted from ARTICLES, "The KAY*FOG Online Magazine."*



Unravelling the Expanded/Extended RAM Nightmare

Steve Gibson

< Part 1 of 2 >

During the past 18 months, application software has largely gone from being delighted if your machine was "fully populated" with 640K of RAM, to being insulted if you weren't able to provide it with a "decent" working space of an additional Meg or two. (Of course in the process that same software is doing so much more for us than ever before.)

Unhappily, the original designers of the IBM PC felt that 640K of RAM would be more than anyone could ever need... after all Visi-Calc operated usefully on a mere 48K Apple II! Consequently the PC's fundamental architecture, and its DOS operating system, didn't provide for graceful RAM expansion beyond this upper 640K bound.

Then clever system designers, answering software's growing need for ever more elbow room, invented ways of "hanging" more RAM onto our existing systems. However, like many kludge afterthought solutions, the ways and means of these RAM "expansions" and "extensions" are far from straightforward or clear. Since we're stuck living with the sins of the past, it's important to understand exactly how all today's RAM expansion systems work.

The 640K memory limit was a consequence of the 8088 chip's 1 megabyte addressing range. The term "memory mapping" refers to the PC's method of giving a microprocessor fast and flexible access to its peripheral devices. For example, the PC's display devices are memory mapped, occupying chunks of "memory space" above the 640k mark. The PC writes to the dis-

play screen by depositing information at the proper location in this high memory.

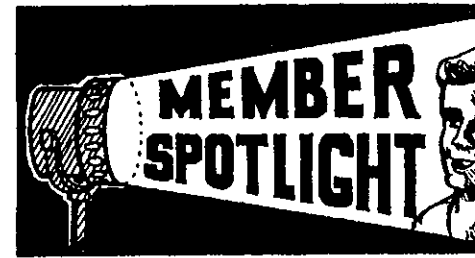
Allowing for the PC's future, IBM allocated the lower 640K bytes (out of the 8088's 1 megabyte maximum) for the software, and set aside the upper 384K byte region for memory-mapped peripherals and the system's BIOS ROM.

So the first problem to solve was the need to add more memory to a system which couldn't access any more. The answer lay in the creation of a new type of memory mapped peripheral device called an EMS RAM card and a technique known as "bank swapping." Where a display controller provided its memory mapped RAM only for the sake of storing the image to be displayed, the EXPANDED (not extended) Memory System cards provided RAM for the sake of storing whatever information the software decided to store there. As with the display RAM, this EMS RAM occupied a space above the 640K mark, up in the 384K "twilight zone" where the peripheral devices live.

However we still had the problem of there not being very much unoccupied room available up there in the high memory "twilight zone". Software was demanding multiple megabytes of additional RAM, not merely a couple of extra hundred kilobytes, and other devices like network interfaces, disk controllers, higher resolution displays, and the system's BIOS all needed to share the limited 384K space. What we needed was a way of limiting the memory space consumed by the EMS board while at the same time allowing megabytes of memory to be accessed. A technique called "bank swapping" came to the rescue.

EMS bank swapping operates by chopping the many megabytes of expanded memory into small 16k chunks called "pages" (64 pages per megabyte), then allows software to select any 4 of those 16k pages to "appear" in a 64k region of high memory. While this means that only 64k bytes of the EMS board's memory are accessible at any instant, the electronic circuitry which performs the memory page mapping operates instantaneously making other 16k EMS pages available almost instantaneously.

To this clever hardware we add a special EMS Software Driver, written for the hardware, which defines and implements a standard software protocol to allow multiple resident and transient application programs to acquire ownership of portions of the EMS memory while preventing usage conflicts. Gone forever are the days when a running application can assume that it owns all of the system's resources. This now in-



Kathy S. Halbardier

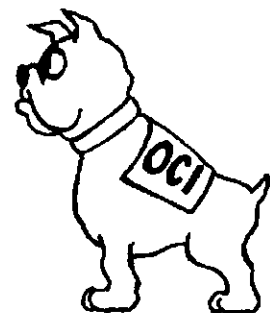
This month's membership spotlight is on Steve Gilson, who holds the second honorary membership awarded by the OCIPUG Board of Directors. Steve was born in Ohio and raised in Northern California. By age 5, he had already developed a passionate interest in electronics.

Later Steve attended the University of California, Berkeley, for about one year before he decided to leave academic work and enter industry. This choice was prompted by Steve's determination to market his first copyrighted invention, an electronic synthesizer capable of mimicking real life sounds.

Currently, Steve writes a weekly column, called Tech Talk, for Info World magazine. This column utilizes strong teaching concepts. However, Steve's main pre-occupation is with his software publishing company, Gibson Research. The first product, which is currently being sold on the open commercial market, is FlickerFree - a screen performance enhancer. FlickerFree speeds up the output of screens and eliminates the scrolling or flicker. Few of us who were privileged to witness Steve's presentation of FlickerFree to an overflow audience at one of our companion Orange County user group meets nearly two years ago will ever forget the enthusiasm which greeted his exhilarating demonstration.

Steve has now issued a second version of FlickerFree. His second and latest product, due for release in about two weeks, is entitled SpinRite. This program will low level format a hard disk, but it will do so without removing any of your programs and data. This is unique and we eagerly anticipate the release of this innovative program.

Steve can be best described as a true renaissance man continuously searching for new knowledge. He is an enthusiastic person with an incredible amount of energy and drive. His first love is to be one on one with the computer. His other hobbies include snow skiing, sailing and bike riding. While interviewing Steve I discovered that he is a man of many talents. Of particular interest is his ability to use humor in a captivating way, through his writings and his public speaking. We all look forward to hearing from Steve in the near future.



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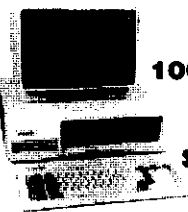
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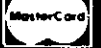
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- - INVESTORS - SIG - REPORT - - -

- On December 16, 87 (During a bad rain storm forecast that eve..) we had a total of 14 attendees at `NEW HORIZONS' and since it was one week before Christmas, I didn't schedule any speakers. This meeting was really a work-shop...where we split-up into basically 3 groups...One doing a `WINNING ON WALL STREET-DEMO'...The second was look'g at METASTOCK, and the third was evaluating the OPTIONS-EVALUATOR PROGRAM... This third group was interested in the "BLACK/SCHOALS/SYSTEM" which allows the user to measure VIOLATILITY while considering time left in the option, and the relative price as value...otherwise known as PREMIUM.

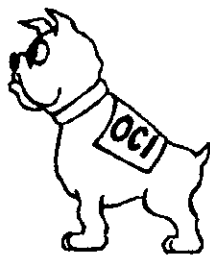
Each month we try to spotlight a particular program of interest...December was to have been an examination of "TELE-SCAN" however the weather was so threatening...that it didn't arrive.

JAN/20, was "FUND/MASTER" night, a program that several members used quite successfully in tracking MUTUAL FUNDS as an investment PORTFOLIO MANAGER...we also looked at a new software package called "TELE-SCAN" which is very good graphically and really a good value for the \$55.00 price...along with some interesting features widely used in the industry...Trend-Lines, Channels, Oscillators, Moving Averages, Relative Strength...etc Unfortunately we didn't have the available driver for Fund-Master in January but we will be fortified with the complete program for the February 20th SIG.

For the Feb/SIG...we will HOST (2) MUNI-BOND Specialists...Mr. BOB FALL & MR. MARSHALL FIELD...(FROM CH-22 Fame) They will outline the benefits and the PIT-FALLS of the Municipal Bond Market and how they relate to a balanced portfolio in today's environment. Mr. Field is a computer Specialist in this area...which always lends a better understanding for the group. Following their talk...(about 1-hour) we will have a Q; A; session and then on to our software review...TELE-SCAN...FUND-MASTER...and a surprise package called TELE-MAIL which actually is a Prompter, which alerts you to price objectives...when HIT in the market (via Modem & On Line

Data Stream) The program follows your pre-programmed instructions...then according to the "time of day" is designed to ring your home or office, when "that " price is reached...allowing you to TAKE THE PROFIT or ADD ON SOME ADDITIONAL POSITION...it can EXECUTE in the market, but this feature goes beyond my needs. SOFTWARE REVIEWED SO FAR- METASTOCK, WINNING ON WALL STREET, OPTIONS MASTER, DOW JONES MKT ANALYZER OPTIONS EVALUATOR, FUND-MASTER, TELE-SCAN, PC-QUOTE, TECHNICIAN, TRADING SIMULATOR, TYCOON, and we would like to find someone using the OLD RIVER, mutual fund program to evaluate for the March/SIG...also anyone with public/domain tax software, please let us review it...COME ON BY...Ralph.

The third meeting of the NetWorking SIG was held on February 11, 1988 at the offices of M&M Systems. A three node Novell NetWare ELS (Entry Level System) utilizing ARCNet Network Interface Cards was demonstrated. Functions performed were Word Perfect, Lotus 123, MAIL, various NetWare Utilities and several interactive multi-user games: PC-Trivia and N(etwork)SNIPES. The next meeting will be held on Thursday evening, March 10, 1988 at the law offices of Jack Utter where a "Knowledge Network" is installed. The address is 2121 E. Pacific Coast Highway, Suite 222 in Corona Del Mar. (This is 1 block North of MacArthur Blvd.). Telephone is (714) 640-8900. This is one of the so-called zero slot LANs which operates over RS-232 ports at a maximum speed of 115.2K baud. It can handle a maximum of 6 PC's with a total cable length of 1000 feet and utilizes standard modular 4-wire telephone cable with RJ-11 connectors. The topology is very flexible and is a "peer-to-peer" type of network (vs. file server). Cost is \$150 per node! As usual, we will begin at 7:00 P.M. and end around 9:00 P.M. If you would like to be placed on our mailing list please call either Jim Mansfield (751-2243) or Andy McGill (731-2951) or leave a message for one of us on the Bulletin Board.



FEBRUARY DOS SIG REPORT

Kevin Moser

The DOS SIG met February 10th at 7:00 p.m. in Room 106, Counseling and Admissions Building at Orange Coast College; twenty three members attended. The regular SIG Coordinator was unable to attend. Dr. Goodman agreed to conduct the meeting by pursuing topics and problems brought up by individual members.

There was a discussion of a new variation on the "Trojan Horse" which is making the rounds. Sometimes called a computer virus [Editor's note: see related article on page XX], it is concealed within COMMAND.COM on a floppy disk, and operates by first copying itself to other copies of COMMAND.COM on your system, then later on obliterating the FAT on floppy or hard drive, thus rendering contents of the disk unrecoverable. One should regard with at least mild suspicion any newly acquired floppy which contains COMMAND.COM.

Discussion of this topic lead into a general explanation of the sequence by which the operating system loads itself at boot-up: (1) the Boot Record, (2) IBMBIO.COM (or IO.SYS on some MS-DOS systems), (3) IBMDOS.COM (or MSDOS.SYS), (4) CONFIG.SYS, (5) COMMAND.COM, (5) AUTOEXEC.BAT - and then wherever that leads.

Throughout the meeting there were various questions on sub-directories, PATH, buffers, RAM drives, disk optimizers, screen savers, park head utilities, formatting floppy and hard disks, and SHELL. Dr. Goodman melded these apparently disparate subjects into a discussion of the overall organization of a hard drive. He explained what MUST be in a root directory, how it is limited as to the number of files it may contain, the desirability of limiting its size, and the use of subdirectories. He explained the use of SHELL in CONFIG.SYS to identify the location of COMMAND.COM when it is not placed in the root directory. The structure of the PATH statement was explained.

And then something big came across: How to tailor CONFIG.SYS and AUTOEXEC.BAT for for most efficient use when running particular programs. For instance, a certain configuration of buffers, files, VDISK and SHELL combined with particular Path, clock, Prompt or TSR file invoked by a particular CONFIG.SYS and AUTOEXEC.BAT files might be highly efficient for a database or spreadsheet.

LIBRARY NOTES

Bonnie Ulanovsky, Librarian

Among the disks I've looked at since our last meeting the following three programs stand out, two of which focus on education.

The **ESL WRITER** disk is aimed primarily at students to whom English is a second language, but some of its features could be very useful to anyone who is uncertain of English grammar or punctuation. I felt that David Lovelock's comments would be more helpful to you than a description of files on the Calculus disk, especially for parents or grand-parents. And, since we are all turning over a new leaf this year (aren't we), and getting ourselves really organized, a nifty organizer would be worth while. I hope you are all enjoying the software you pick up at the meetings, and that you are remembering your shareware authors when you sit down to write those monthly checks.

ESL WRITER (Two Disks) was developed for college level ESL Writing students, but the program may be useful for any students of writing. The ESL Writer word processing program has a pull-down-menu system that will make the students' word processing more efficient and productive. Instead of having to remember a lot of commands the student only has to know a few important commands that access the pull-down-menu system. From the pull-down-menu all of the major word processing commands can be activated by arrow keys or single key strokes. The student can also access four help programs directly from the pull-down-menu. These programs gives the student access to grammar, punctuation, word processing commands, and revision help. These programs can also be accessed through the post-writer menu, without having to go into the ESL Writer word processing program. Author, Richard Raker.

ARE YOU READY FOR CALCULUS has been designed to hone the student's skills in those parts of algebra and trig which are essential for success in calculus. The following paragraphs as set out in the programs documentation tell us why and what's of

ARE YOU READY FOR CALCULUS.

"One of the problems we encounter while teaching calculus is that many students do not have the mathematical skills which are essential for success. This is true even though the prerequisite courses (College Algebra and Trig) have been passed. Let me put it another way. I think the main reason that students do poorly in calculus has little to do with the course itself. It has to do with poor or forgotten algebra and trig skills.

Even students who have received an 'A' in algebra or trig have trouble with calculus. This is because some of the material which they did not master in algebra and trig is essential for success in calculus.

To address this problem, the Mathematics Department of the University of Arizona decided to do the following. Write a computer program which a student can use before starting calculus. This program would quiz the student on all sections of algebra and trig which are essential to calculus. In other words, it would not review all of college algebra and trig-onometry, but would concentrate on those areas which are actually needed in calculus."

The program to provide these drills was written and included on this disk for pre-calculus and business calculus. It will run on the following computers: Artisort, IBM PC/XT/AT, Compaq, Paradox, Tandon PCX20, Zenith 151/158/181. If you have a college bound high school student at your house, I think you have found a friend in Author, David Lovelock, Department of Mathematics, University of Arizona.

MakeMyDay New Version 3.0 is a complete computerized Time Management system for the IBM PC family of computers. It is menu driven and very slick. The program provides an Appointment Calendar that can handle repeating appointments (last Saturday of each month - OCIPUG), which may viewed on screen or printed. **THE JOB SCHEDULER** keeps track of your complete "todo" list and provides a work in progress report, in addition it will roll forward incompleting item until you mark them as complete. The **EXPENSE ACCOUNT MANAGER** keeps track of your expenses. You assign the categories (travel, entertainment, hotel, etc.) under which each item belongs. You also specify the date and the amount, and whether the item is a payment or reimbursement.

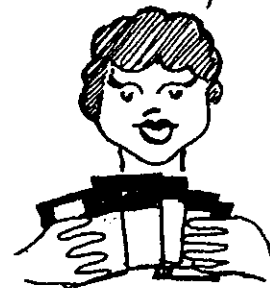
MakeMyDay keeps track of everything and provides the account information you need, broken down by the categories you assign. Finally, the **TIME LOG** keeps

track of the time you've spent on each client or project and provides the necessary documentation when you want it. *Attorneys, accountants, consultants--anyone who needs to keep a log of time spent--will find this feature useful. MakeMyDay* makes use of your line printer to produce all the worksheets and printed reports you need to organize your business and personal schedule. From *Universal Business Concepts, Inc.*

Call me if you want to reserve your disks or if you want to order from past handouts. But please call early, like the week before, preferably, but please don't call later than the Wednesday preceeding the meeting. If you get the answering machine, please leave your name and the titles of the program(s) disk you want.

See you February 27th.

PICK A DISC.
ANY DISC



SUPPORT YOUR SHAREWARE AUTHORS

FLASHBAK

Lionel Dyck

I discovered FLASHBAK about 6 months ago when I was looking for a simple and inexpensive program to back up my hard disk. As I had just invested over two thousand in an AT clone, EGA card and monitor and a 30 MB hard drive, I did not have the funds to invest in a lot of software. Therefore, I turned to the bulletin boards and the Public Domain and Shareware arenas for my initial set of software.

While reviewing the software available on GEnie I discovered FLASHBAK.ARC and decided to download it to see if it was as good as the 4 or 5 line description on GEnie. As with a lot of what is found in the public/shareware arenas - *it was very good, and the price was right. It was totally, absolutely free. Something that is emphasized*

when one first starts it.

To start FLASHBAK one must first unarc it into a directory. I prefer to place important utilities (like the one that backs up my system) in it's own directory. Then simply type in FLASHBAK. You will see an initial panel informing you of the version (I used 1.56d copyrighted 1986) and the name of the company that once distributed it:

Overland Data, Inc. 5620 Kearny Mesa Rd., Suite A San Diego, Ca 92111 (619) 571-5555

This version of FLASHBAK writes data to low density diskettes (sorry about that for those of us with the 1.2MB or 3.5 inch drives). They offer a version for sale that writes to 9 track tape. (see Ed. note)

To quote from the help panel
"...FLASHBAK was born in a small Japanese restaurant in San Diego. Originally designed for 9 track tape, FLASHBAK has been so well received by our customers, that we decided to implement it for floppy disks. FLASHBAK backs up to tape at over 4 MB per minute and to preformatted floppy disk at .5 MB per minute..."

After seeing the initial panel, you will see a menu bar across the top and a list of all of your directories. FLASHBAK reads all of the directories on your hard drive

and displays the total number of directories, files, used space and free space. Hit the INS key to activate the menus or F1 for the excellent tutorial.

One of the best aspects of FLASHBAK is that when you tag a file for backup the amount of space tag'd is noted and the number of diskettes required to back them up on is also displayed. This is a real help as it lets you know how many of the diskettes you will need. *Note that FLASHBAK writes the data to the disk in it's own format. DIR and CHKDSK will not work on those diskettes.*

I recommend that you read through the help panels before using FLASHBAK, to acquaint yourself with it's capabilities. I am sure that I could not do it justice in this review due to the limited space and time. I will make a few recommendations:

Always use the ALT-S command to enable any file selection to refer to sub-directories.

Verify the file selection options using the ALT-O command and change any that require it by using the INS key and the -- key to select the TAG pull down menu to change the options.

At least once a month (more frequently if you do a lot of work) back up every file on your system (hidden, read-only, etc.).

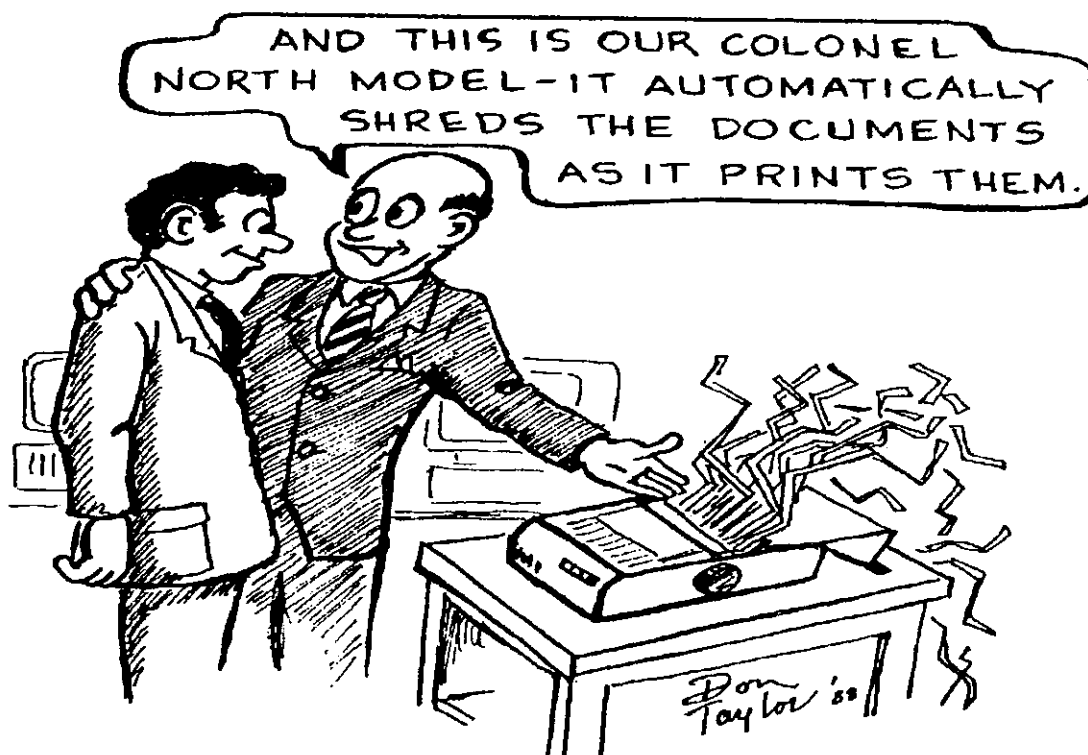
At least once a week (or more often) back up all files that have been modified.

Keep two sets of complete back up diskettes. Rotate them to ensure that you don't loose anything accidentally.

Remember that while a deleted file can be recovered by some of the hard disk management utilities (e.g. Norton), if another file has meanwhile been written on the same disk space, the original will be completely lost unless you have it backed up.

Ed. Note The author submitted this comprehensive review on his own account. *You are urged likewise to submit for publication in this column brief reviews of any Public Domain and Shareware programs that impress you, for assistance to your fellow Club members.* FLASHBAK is a rather special case, for it was developed in connection with another product. Then a business decision, unrelated to the quality of the program, which is generally considered good, resulted in the withdrawal of support for it by Overland Data, and the program is now in the public domain. Please do not call queries into Overland Data. Flashbak will be available on disk from the Librarian, and on the Club BBS.

Congratulations to Lionel for locating this valuable program and so ably directing our attention to it! A.B.



OCIPUG ON-LINE

John Goodman

One of the major benefits of membership in OCIPUG is access to our club's electronic remote bulletin board. I have been privileged to serve as co-sysop (system operator) of this BBS

for nearly the past two years. In that time it has grown enormously, in each of several ways of measuring it. We have much superior equipment now with vastly more storage capacity than when we began. The software has undergone many, many revisions and improvements. The number and value of the files available continues to grow by leaps and bounds as do the number of users and the richness of the conversations that they hold in our main "message base" and in the various conference areas.

If you have not yet found us, don't delay.

All you need to add to your computer is a modem and a communications program. Connect the modem to the telephone line and startup the communications program. The next stop is a whole other world!

It is startling to realize that you are no longer confined to operating with the information in your own personal computer. You can instead "play" in a field with literally thousands of times as much information as you could ever hope to have stored in your machine.

EQUIPMENT

If you are new to telecomputing you may feel a bit intimidated at first. That is only natural as you explore what is essentially a foreign land. Let me see if I can help you with a few tips and define a few of the jargon terms.

"What modem should I buy?"

Don't buy a 300 baud modem. Up until very, very recently a 300 baud modem was a good choice for a beginner. Now it is just too limiting. In fact, we won't allow people to connect to our board at that speed.

Baud, by the way, means symbols per second. Since it takes about ten symbols to send one ASCII character, a 300 baud modem can only send about 30 characters per second. The most common modems for use with personal computers now-a-days seem to be the 1200 baud kind, but the 2400 baud ones are fast becoming the new standard. There are even faster ones, up to about 10,000 baud, but since they use very

special "protocols" they essentially can only be used in pairs to talk to each other.

So for now my recommendation is that you buy either a 1200 baud or a 2400 baud modem. If you can afford it, get the faster one since all the good ones, at least, can also work at 1200 (and 300) baud as well.

"Do I want an external or an internal modem?"

I usually recommend an external one. It connects to the serial port on your computer. If you have such a port the added cost of an external modem is slight, but the added flexibility it offers can be very valuable later on.

"What does it mean to be Hayes-compatible?"

The Hayes SmartModem was the first modem for personal computers which one could operate from the computer directly, dialing calls, connecting and carrying on a conversation without once having to touch the modem or the

telephone. It used a special command set for the necessary conversation between itself and the computer. Because it was so popular, most software authors wrote their programs to work with it. That, in turn led most competing modem manufacturers to make their modems work just like Hayes. Unfortunately, not all "Hayes compatible" modems are created equal. Be sure to ask if the modem you are thinking of getting implements ALL of the Hayes commands and registers or only a few of them. The more the better.

"What communications program do I want?"

We strongly recommend Procomm. You can get it from our club librarian practically for free (to try it out - if you like it you should register your copy with the authors, but even that is relatively inexpensive). It is one of the very best ones on the market. If you use it you will find lots and lots of other people who also use it who can help you learn how.



GETTING CONNECTED

What to do when you first call the OCIPUG BBS:

Set your communications program to dial our BBS number, set the speed to either 1200 or 2400 (use the higher rate only if you have a 2400 baud modem) with the parity set to NONE, data bits to 8 and stop bits to 1.

The numbers to call are listed in the back of this newsletter. Call *only* the so-called public line. Until you are known to the BBS you will be unable to use the second line.

When you connect successfully you will get a short message and then the BBS will ask you for your first, then your last name. Give your real names, please. Next you must give a password. You may use anything you like (up to 14 characters long) and it may contain any combination of numbers or letters. Capital or lower-case letters are all treated the same.

A piece of advice: Don't use anything for a password that someone else who knows you might plausibly guess. If you think someone has learned your password, change it. (If you don't know how, just ask us.)

REMEMBER your password. (So don't make it too obscure!)

You will be given a chance to read our bulletins. Please do so. Look at the bulletin menu and then read at least the first several. They tell you some of the things we think you need to know and it sure is easier on us if you read them than if we have to answer questions on the same few points over and over again.

Next come the messages. Read a few. Watch the time though. You will only have a limited amount of time to use the BBS each day. Once you exceed that limit it will automatically hang up on you.

Leave a message to SYSOP. Tell us you are there and

that you are an OCIPUG member. Once we verify that fact with our membership chairman we will upgrade your security level so you can use both phone lines, download files and enter most of our conferences.

VALUABLE TIP: "Log" your session to disk. That means to ask your communications program to make a recording of everything that goes across the screen and to place it in a file on your disk. Reviewing this after you hang up can be very useful in hastening your learning how to use the BBS effectively. Looking back at it later on will help you remember things you otherwise would forget. (If you are using PROCOMM simply press ALT-F1, release them and then press the Enter key. The log file will then be called PROCOMMLOG.)

Go to the next Modem Special Interest Group meeting and ask lots of questions! You will find our members eager to help you.

TECHNICAL FEATURE ARTICLES

Disk Caching Software, A Warning

[Ed. Note: The following letter first appeared as an article in PC Report, a publication of the Boston Computer Society, last month. The subject is so important that we are reprinting it here. Their editor notes that the author of this letter is co-author of the book dBASE III and dBASE III Plus: Bugs, Anomalies, Tips and Add-Ons (More Things Your Manual Never Told You).]

Dear Art:

I read the article entitled "Disk Cache Software, Still a Well Kept Secret" in the November 1987 issue of *PC Report* with great interest and some trepidation. Disk caching software can be quite effective in many circumstances, but should be used with great caution with database programs of the dBASE family (such as Ashton-Tate's dBASE, Fox Software's FoxBASE, etc.) because it can have a lethal effect.

Some programs and development languages, such as Quicksilver and Fox-BASE+, use dynamic memory allocation and their own caching. In these instances other disk cache software should **NOT** be used at all. You will find that the manuals for these products normally warn against using external cache software. Use of such disk cache software will eventually result in corruption of database and/or index files and, in some instances, source code files.

Since 1984 I have tested over thirteen commercial disk cache software products including the highly rated PC-Kwik, and innumerable public domain and shareware caching products in IBM-XTs, IBM-ATs, all types of Compaq Deskpro machines and various IBM 8086/8088 clones. The majority of these machines utilized AST RAMPAGE! boards, others used Intel Above Boards, for memory above 640K.

Data and index files used in Fox Software's FoxBASE+, WordTech's dBXL and Quicksilver, Ashton-Tate's dBASE III and dBASE III Plus, and

Clipper were always, *inevitably*, corrupted by the caching. In some instances source code, format files, report forms (.FRM) and label files also became corrupted as did memory (.MEM) files.

Systems running under FoxBASE+, Quicksilver and dBXL produced corruption rather quickly when run by clients or during my programming and debugging sessions—usually within the first month or so. Clipper-compiled systems and systems running under Ashton-Tate's dBASE typically took longer to evidence corruption from external caching programs, but this did eventually and inevitably occur.

It might be noteworthy that the dBASE language applications with which I normally work utilize very large database files—typically several thousand to well over ten thousand records per file with multiple complex indices.

All the machines used were, of course, hard-disk machines with the hard disks ranging from the IBM-supplied disks to just about every major third party hard disk, including Bernoulli Boxes and Core disks. Therefore the problem does not appear to be related to the make of hard disk or controller.

In my trials and travails I also found that when using machines with hard disks and disk caching programs installed, attempts to write to floppy disks would consistently corrupt hard-disk files. This problem was not limited to systems running under any of the dBASE family of products, by the way.

Interestingly enough, none of these problems were encountered when I tested speedup boards that contained their own chips for caching and additional memory. The Turbo Switch II also has not produced corruption after over nine months of hard use in various machines.

Preliminary tests of Compaq's new Deskpro 386/20 20 MHz machine that comes equipped with the Intel 872385 cache controller chip have not produced these corruption problems with systems running in any of the dBASE languages. Fox Software also informs me they have not experienced any problems with

this machine with either FoxBASE+ 2.0 or the '386 version of FoxBASE+ 2.0. However it should be noted that at the time of this writing there has been less than a month of experience with teh 386/20.

Although my expertise and greatest area of experience is with the dBASE family of languages, I would guess that any program or application using its own caching or dynamic memory allocation would eventually experience similar problems if used with external software caching programs.

In view of my three years of consistent problems, I have elected to forego soft-ware caching for data based applications and would urge your readers to observe the same caution. Hardware based caching has, on the other hand, seems fairly reliable.

Sincerely, Pat Adams, President, DB Unlimited, Brooklyn, NY



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"Your computer caught a VIRUS?"

John Goodman

No, I don't mean you heard it sneeze, nor that it shivers now more than it used to. A "computer virus" has a lot in common with the virus that causes the common cold, but its symptoms are quite different.

There has been a lot of talk lately about computer viruses. What are they? Do they really exist? Need I worry about them? For several years now there have been stories circulating about so-called "Trojan Horse" programs. Are these "virus" programs just another name for the same thing?

You may have seen a recent article in the Los Angeles Times (31 January 1988, View section) or in John Dvorak's column in PC-Magazine (29 February 1988) about these new creatures. Both of these articles take the approach of sounding a rather severe warning. Brown Bag Software in Campbell, CA is so worried that they have totally disallowed any uploads to their BBS. Others are taking a long second look at the benefits of downloading "free" programs from bulletin boards versus the risk and are deciding not to telecommunicate any more.

Is it time to panic? I think not.

I have looked at these articles and talked to a number of people who have been watching the computer world, and in particular the world of networked computers, and they all seem to agree that the "virus" or "Trojan" problem is not as great a threat as the doomsayers would have us believe.

It is a time for prudence rather than panic.

To understand that statement you need to know a bit about what a Trojan Horse program or a computer virus program is all about. Let me try to summarize what I have learned.

A Trojan Horse program is any program that appears to do some useful thing, but actually does some other much more malevolent thing. For example, last year a friend of mine got from a local Bulletin Board system a program that claimed to be the latest and greatest thing in hard disk testing programs. Since this person is, among other things, in the business of testing hard disks he was very much interested in this program. So much so, in fact, that he forgot to exercise his usual precautions this one time.

He ran the new program. It said it was readying itself to do its job, then suddenly announced "Gottcha." Indeed, it had gotten him and good! All the data on his 30 MB hard disk had been wiped out, including the information which he had taken care to place in a supposedly safe place to guard against just such disasters.

That is a classic Trojan. Nasty, but actually not so very dangerous if only one will take certain, fairly simple precautions.

The simplest precaution is to run any new programs on a computer with only floppy disk drives. Here you have a minimum of data at risk. Many of us do not have such a computer, however, and we still would like to have the benefit of new programs without worrying unduly about being hurt. In fact, even if you do test a new program on a machine with only floppy disk drives, that cannot guarantee that it will not cause grief once it is run on a machine with a hard disk. There has been at least one documented case of a Trojan program that would not do its nasty thing until it detected that it was operating on a machine with a hard disk and furthermore that the hard disk was at least 70% full.

Fortunately there are some things that those of us with hard disk machines can do to protect ourselves.

First and foremost, of course, is keep your system well backed-up. That is, make copies to floppies or streaming tape of all the files you change within minutes after you change them. Next, just before you run any new program whose pedigree is in the least bit suspect (and all programs downloaded from a bulletin board must be regarded in this manner by the prudent person), double check your backup status. After you have done this and are *sure* that

you will not lose anything irreplaceable even if your disk is thoroughly trashed, you may feel pretty much ready to test the new program.

Before you do so, however, I would recommend that you examine the new program by using the program CHK4BOMB or some other program analyzer. These programs actually examine all the operations that the program being tested will perform to be sure none of them involves writing directly to the disk or possibly reformatting the disk, etc. They will not catch all Trojan Horse programs, but they will catch all but the most subtle ones.

Finally, before you actually run the program, "write-protect" your hard disk. You cannot, of course, do this by putting a write-protect tab on it, as you would on a floppy, but you can do it by running the program WPHD. (Both CHK4BOMB and WPHD are available for download from the OCIPUG BBS.) For even more security you can, if you are inclined to probe so deeply into your machine, install a switch on the "write enable" line of the cable that runs from the hard disk controller to the disk drive itself. If that switch is thrown to the protected position (connecting the drive's "write enable" line to +5 volts instead of to the controller) then no program can write anything to that drive until the switch is thrown back, no matter how cleverly (or diabolically) it may be constructed.

Now run the new program. Observe if you get any messages you did not expect such as "Access Denied." If you do and if the program should not have been trying to write to your hard disk, you may well suspect the program's integrity. Have it checked by an expert before you use it further.

So much for the Trojan Horse. Their nature and these precautions have been rather well publicized in recent years and as a result very, very few people are now getting hurt by Trojans.

Actually there are very few of the Trojan Horse programs in circulation. I have talked to some sysops (system operators) of bulletin boards who have very carefully scrutinized all the files uploaded to their boards and have yet to see, after several

years and many hundreds of megabytes of files, any evidence of a real Trojan Horse. So far as I know, the OCIPUG BBS has yet to receive one. (I certainly hope that we never do.)

Thus while I don't encourage you to be complacent on the subject, I think you can be fairly confident that normal precautions will suffice to protect yourself against the Trojans.

The "virus" programs are a bit different. They too are, fortunately, very rare at least so far and with some care one can protect oneself against them, but the steps to take are somewhat different.

A virus program is one that contains a small bit of code which, when the program is executed, copies itself into other programs. Then when they are run they too copy that code to still other programs. Eventually the "infection" may spread to many, many programs on many disks on many computers. If in addition the code at some point does something harmful to the data on those disks, the viral infection is not benign. It is, at least potentially, a serious problem.

PRESIDENT'S MESSAGE

What a fantastic January issue of the README.DOC that our newsletter crew published last month!!! I knew that they were putting in many hours trying to make our first 1988 issue one to be proud of, but I never realized at the time what a tremendous effort they all were putting forth. Steve Dela as publisher truly marshalled a terrific crew and inspired them to do the impossible. To change from our "FONTASY" based newsletter that Tom Sutro had published almost entirely alone for such a long time to the really professional publication we now have, and to do it all in one month, is a miraculous achievement. But as I heard from them several times in the last month, they wanted to do it right! My hats off to you all. I would also say to all the members that the staff is not through yet. They are working even now on some new ways of perfecting our newsletter even more so watch in the months to come. This coming general meeting on February 27th you will be called on to vote on a proposed By-Law change that would increase the number of Directors on the Executive Board by two members. When the last modification was made in this number the membership of the club was approximately 240, we had about six Special Interest Groups, and there was not the number of activities that are currently going on. To put it bluntly there is just too much work to be done for the present Board to handle efficiently without "burnout". We now have almost 900 members, 16 Special Interest Groups (going on 18) and a great

The first known instance of a computer virus was a program written by a computer science graduate student in late 1983 as an experiment. The experiment was successful. So much so it scared the author. That virus was built under careful scrutiny and it never actually threatened anyone. The danger comes from a malicious computer virus written by someone who wishes to hurt others (or does not care) and then released into the world without any announcement.

Malicious computer virus attacks have begun to be seen. In one case a bootable disk had its COMMAND.COM infected in such a way that if one booted one's computer using it, all the other copies of COMMAND.COM in the system would soon be infected. Then after several such infections had been induced, the original virus program would erase all the data on all the disks on that system.

Fortunately there are some simple ways to detect this virus. When it modifies a copy of COMMAND.COM it will change the date attached to that file. If you had taken the precaution of setting the attributes of COMMAND.COM (using the ATTRIB command in a recent version of DOS or

XTREE or some other file manipulation program) to include setting the Read/Only attribute, the virus program probably could not have modified it at all. If you had not done this you could at least look at the date from time to time and see if it matches the date on your original distribution DOS disk.

If you place a write protect tab on each disk in your system (and use WPHD on your hard disk) sometime when you run this program then, as it tries to infect the other disks you will get an error message from DOS. You cannot always have such protection in place or you could never record anything on disk, but if you sometimes do, and in particular if you do when you first run this new disk you have just gotten, then you may catch the virus in the act of attempting an infection. Once you catch it, "killing" it is naturally very simple. Just reformat that diskette.

In response to that particular computer virus someone wrote a program called FLU_SHOT. It is a terminate-and-stay resident program which attempts to watch any and all attempts to modify COMMAND.COM and prevent



deal of projects. It is the opinion of your President and concurred by the members of the Executive Board that the membership could be better served by increasing the directorship by two members. Also I am appointing some committee chairmanships from other members of the club. All this is to try to improve your club. Another item of interest, especially to you old time members. Bud Hughes, our second club President (and the one who really got the club going when it was on its sink or swim condition), is going to retire and move out of the state. He has been a great asset to the club and helped it along by keeping a cool head and giving it good advice. We will miss you, Bud. We wish you and your wonderful wife Darlene many years of happiness!! Once again I would like to thank all of our S.I.G. leaders for the wonderful work they are doing. I would mention that we have been having a few problems with a few members in not following some basic rules at our S.I.G. meetings. We must continually remember that we are guests in the facilities where we meet and that privilege could be removed at any time. So please let's act like adults and protect these valuable benefits by following the rules and the counsel of our S.I.G. leaders. Have a great month, happy computing, and see you at the next meeting!

STAN SABIN
OCIPUG PRESIDENT

them. It may well work, but I definitely recommend that you not use it. Why? Because there is a much simpler way to achieve the same effect and because FLU_SHOT itself may cause more grief than it prevents.



THAT'S NOT THE WAY TO BOOT
YOUR COMPUTER, FARNSWORTH

PASSIONS FOR PARADOX

Pat Cline

I have been searching for a relational database to replace a mainframe COBOL program with an IBM/PC database program. Everyone, including our Information Systems Department, insisted the way to go was with dBASE. After struggling with dBASE for several years, I felt like I was trying to force myself to love a man I didn't like. And then it happened. From across the room, it was love at first sight. I was introduced to Paradox 1.1, projected onto a screen by Stephen Schiro, District Manager of Ansa Software, at another computer club. Paradox did everything I wanted, and much more.

I could switch back and forth between the form view (data-entry) and table view (database file) with one toggle key {F7}. Using the {Ctrl}{R} keys, I could rotate the columns (fields) on the monitor to create any display image, or report format I wanted without corrupting the database in any way. Multiple reports could be designed and generated easily. I could link as many tables (files) together as I wanted using Query-by-Example, and add multiple formulas to the query resulting in the automatic creation of new calculated fields. In addition, it had its own programming language. The possibilities were unlimited. Everything made sense, and I had to have it. The following week I bought Paradox.

A paradox is something that appears to be a contradiction, but which is, in fact, true. And what is the paradox of Paradox? It is a database program which has powerful capabilities and performs complex functions, yet is ever so easy and quick to learn and use—a most ingenious paradox.

I knew I had made the right decision when I opened the manuals. Not only did it include good documentation, but the first page of the introduction manual included a cultural quote from "The Pirates of Penzance". Who ever heard of such a thing in a computer textbook? I knew the creators of "a most ingenious paradox" were intelligent and unique. I joined the Southern California Paradox User Group (LAPALS), which has grown from one to four chapters in less than two years. It has

been my primary source of education, and communicating with other Paradox users.

My passions for Paradox increased when I upgraded to version 2.0. From within a field in database A, I can press {F1} and link that field to look up information in another database table, and by pressing one key it will automatically fill-in all information in matching fields from database B to database A. This feature alone was worth the upgrade.

Another new feature I have found invaluable, is the **Zoom** feature. By pressing the {Ctrl}{Z} keys when in the appropriate field of the database, a prompt appears for filling in any characters or numbers you wish to locate in that field of the database. Press return and it locates the record you want.

The number of reports and forms (entry) increased to 15 of each for each table.

The valuable "instant script" feature records keystrokes and saves them like a macro for using over and over. Scripts can also be written from scratch by hardy programmers. I learned how to program from studying the language written by an instant script. If you make an error in writing your script, Paradox gives you a menu option to debug the script, and if you press {Ctrl}{E} it will take you directly to the line within the script and identify the problem.

There is also the "Oops" or "Undo" menu selection for undoing your mistakes.

Now we get to the best part. I consider Query-by-Example to be one of the strongest features of Paradox. Perhaps Query-by-"Symbol" would be a closer description of how it works. It provides answers and unlimited query possibilities for obtaining, deleting, inserting, and changing information, as well as multiple calculations using multiple tables linked together resulting in a "combined answer" database. One powerful word, **CHANGETO** can be used in queries to make changes throughout the entire database with one transaction. No question about it, IT'S GREAT!

Paradox has its own "Personal Programmer", a powerful applications

generator. Those of you who like to do your own programming were not forgotten, for Paradox has its own application language, PAL (Paradox Application Language), with an extensive user's guide manual. Most Paradox programmers are converts from dBASE who, like I, have a passion for the product.

Some non-users have referred to Paradox as a program for small business functions. Let me point out that American Savings and Loan uses Paradox for statewide financial summary reporting. It is also the standardized software for Pepsico, American Airlines, and the L.A.P.D. Now I don't consider those small businesses!

You won't find 35 books on Paradox at Crown Books. There's a reason for that. Ansa Software has done an excellent job in documentation. Included with the Paradox User Group membership is the newsletter, *Instant Scripts* which is always chuck full of helpful hints, and keeps users updated.

The founder and president of the Southern California Paradox User Group, Brian Smith, (213) 378-4195, has a monthly column in *Data Based Advisor* magazine. I also have found subscribing to the Paradox User's Journal, published by The Cobb Group, Inc., to have been very valuable to me for its hints and application suggestions. *PC Magazine* (January 12, 1988 issue), awarded Paradox 2.0 the 1987 Award for Technical Excellence in Application Software.

Do I work for Ansa Software, you ask? No, I only promote Paradox as a labor of love, in appreciation for an excellent product. There are several OCIPUG members who share my passion for Paradox, and some have told me they are willing to serve as a Paradox resource person if you need any technical assistance, or have any questions about the Orange County Paradox User Group—an exceptional organization for business professionals. They OCIPUG members are:

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RANDOM ACCESS

John M. Goodman, Ph.D.

Are you ready? Here we go again, folks! Another round of questions and my best stab at answers to them. As usual I expect that some of you will have better answers for at least some of the questions. I hope you will write to me with those better answers so I can share them with everyone in future issues.

At the last general meeting I was handed only five questions, plus a sheet from our one-and-only red badge member, Oscar Taylor, bearing seven questions. (For those of you who may not have been with us very long, Oscar was awarded his red membership badge about a year ago in recognition of his unusual proclivity for asking "dumb" questions. He suggested it, he got it and now he wears it with great pride.

On the topic of "dumb" questions, I assert that there are no dumb questions, only people dumb enough not to ask the questions they have on their minds.

After the meeting I was handed another sheaf of questions, so if you submitted one and it was not answered there, that is the reason. Look for your question here.

DOS

Our first questioner asked "How do you determine if a ram (virtual) disk can work with a particular program or application?"

If you have enough system memory in your computer and don't need to run terribly large programs you may be able to set aside some of that memory for a virtual disk drive. If you have an expanded memory card or, in an AT class machine, if you have extended memory, you can use that instead. In that case you can create a ram disk without having to give up much at all of your precious system RAM. Either way you can make what acts like a blazingly fast disk drive out of that extra RAM memory.

Any program that uses a disk drive can use a ram disk. Naturally the virtual disk drive you have created must have a large enough capacity for whatever files that program wants to place there.

Also remember that the very *instant* that power fails all the information on a ram disk is history. Making regular backups from this kind of disk drive assumes very much more than usual importance!

Our next question is about a message I hope you never get to see. The questioner says that when he exits from some of his programs his computer says, "Cannot load COMMAND, system halted." He wants to know why and what he can do to prevent this.

Indeed this is a frustrating message. Once you see it you have only one recourse, shut off power to the computer (or as we say among friends, "It's big red switch time!").

I checked my DOS manual and it says that this message can mean one of two things: DOS cannot find an appropriate copy of COMMAND.COM where the COMSPEC parameter in the environment told it to look, or the area in which DOS keeps track of available memory was "destroyed."

The more common one of these, and the easier to understand, would be the first one, I suspect. When you boot your computer DOS "takes a note to itself" as to where it found the command processor, COMMAND.COM. (This is the program that gives you the DOS prompt [which usually looks like A> or C>], then listens to the keyboard to find out what you want the computer to do next. It also is responsible for displaying the characters you type on the screen and, when you finally press Enter, for finding and running the program file or executing the command that you have specified.)

The only places that DOS could have found COMMAND.COM in the first place are the root directory of the A: drive (if you booted from a floppy disk) or the root directory of the C: drive. An exception to this general rule would be if you used the SHELL statement in the CONFIG.SYS file which was in the root directory of your boot drive and if that statement pointed to a command processor that was located somewhere else. That is possible, but it is highly unusual.

Later on, whenever you exit from a

program DOS checks to see if it needs a fresh copy of the command processor. Usually it doesn't, but if it does, it checks its notes and then goes wherever they say and attempts to reload the command processor.

Ordinarily this all works very smoothly, without your even being aware of when a new copy of the command processor is loaded and when it turned out not to be needed.

As the message description said, there are two exceptions. One is if you have a copy of COMMAND.COM where DOS expects to find it, but that copy is either damaged or a wrong version. The other is if somehow your application program overwrote the area of memory where DOS keeps track of what other memory is available for the loading of future programs. Either of these conditions leaves DOS with no idea of what to do and no way to get helpful instructions from you, so it just plain gives up!

What can you do if you get this message a lot? If, as was the case with our questioner, you can identify which programs seem to mess up DOS most often, you might contact the program's publisher to see if they have heard other reports of the problem and if they have any suggestions. Be sure to have in hand when you call a copy of the contents of your CONFIG.SYS and AUTOEXEC.BAT files, the version of DOS you are running, and information on any ways in which your computer might be non-standard.

"When I use Norton SD (Speed Disk) I notice that it refuses to move quite a few files. I can understand that for the system files and maybe even for other hidden or read-only files, but what about all the others it will not move?"

I too have noticed this and wondered, so one day I called up Peter Norton Computing and asked them. I was told that they had surveyed all the major manufacturers of copy protected software and had developed a complex set of rules about which files should not be moved, lest they render some copy protected program inoperable.

These manufacturers are, understandably,

not too keen on revealing how they do what they do, so the person at Peter Norton said he had been sworn to secrecy on the details.

There are now half a dozen or more disk optimizing (file de-fragmenting) programs and I think there must be an equal number of different ways they do the job. Norton's way is very conservative. This leads to a less complete optimization, but it may prevent significant amounts of grief. Paul Mace is much less cautious and he was willing to make a program that takes a lot longer to run, in order to achieve what he feels is the "best" results. Still other authors had other agendas in mind when they wrote their optimizers.

Unfortunately since none of these authors is yet willing to be fully candid in describing his or her algorithm we poor users are limited to our impressions of what each one does and why it is or is not suitable for our needs.

This too is an ideal topic for some lively interchange of opinions and experiences. Write us, or call the club BBS and share your ideas.

The next question concerns generating non-keyboard characters by using the Alt key and the numeric keypad to enter the ASCII value of those characters. This person said that her PC clone wouldn't let her enter them that way. She wonders why.

It might be that her computer is not very

IBM compatible, so much so that its BIOS ROM does not include that feature. Another, more likely possibility is that she is running some program which modifies how key strokes are processed. One notable and popular example is **Superkey**. When you have that program loaded in memory you must hold down both the Alt key and the Left-hand Shift key while you tap out the numerals for the ASCII character you wish to enter on the numeric keypad. Then when you release the Alt and Left-Shift keys you will see the selected character appear on the screen.

The reason that Superkey (and some other programs) must do this or some equivalent thing is that they wish to define or allow you to define some special new meaning to the Alt-key, numeric keypad key combinations. Thus they must find some even more complex key combination to use for entering non-keyboard characters.

"I want to add a hard disk to my old Compaq computer. I understand I may have a problem doing so. Can you help me understand why?"

Yes, I can. The BIOS ROM is a pair of chips on your computer's motherboard which contains a sort of "reference library" describing all the details of how the computer can do various things. In the early versions of the IBM and Compaq PCs there was no provision for accessing a hard disk. Later on IBM brought out the XT with a hard disk and an expansion chassis, also with a hard disk. Compaq, naturally, brought out similar machines.

DOS was upgraded at the same time, but that was not the only place that the improved programs went. Some of them went into an upgraded BIOS ROM for these new machines. Only one of the two chips had its library modified.

Up until recently you could order a copy of the one of that upgraded PC or PC/XT BIOS ROM from IBM. Then upgrading your system was simple. Now they have stopped selling them. If you can find a used expansion chassis you might be lucky. If the person selling it had originally bought an XT or a late model PC, they did not need the upgrade BIOS ROM that was shipped at no additional cost with every expansion chassis, just for the benefit of owners of older PCs. If that is the case and if this person hung onto that spare ROM chip then all you have to do is convince him or her to sell it to you.

Maybe Compaq still sells those upgrade ROMs, I don't know.

The only other solutions I can think of would earn you a "Black Eye Patch of the Month" award!

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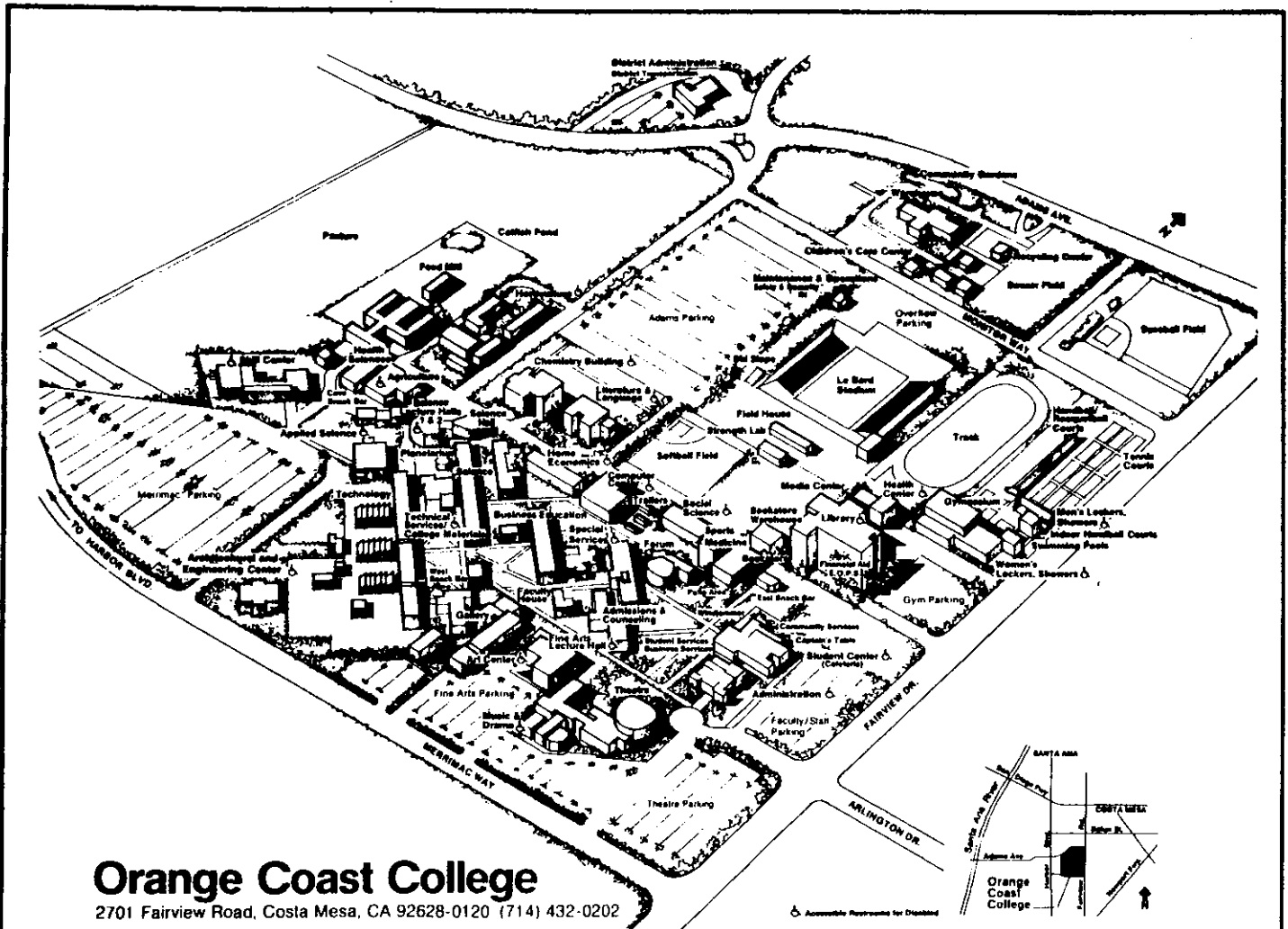
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