

HARD COPY

What's New

By John Ewing

George opened this month's activities with a demonstration of the newest addition to his computer repertory, a 600mb Sony CD-ROM. You may remember January's Hard Copy article about this device. I think just about everyone who attended the meeting was impressed with the demonstration. George showed Groliers Encyclopedia, an atlas of the world, and a multi-language disk. The graphics from these CDs are very sharp and detailed, looking as if they were drawn on the screen by a graphic artist. The multi-language disk was particularly interesting. George showed how to convert literal English to Chinese characters. (Are we really sure it works? After all, nobody at the meeting knows how to read Chinese characters). Personally, I was very impressed and have added a CD-ROM to my wish list.

The feature of the main meeting was a demonstration of Reference Software's Grammatik Windows. Siegrid Metson, Director of New Business Development for Reference Software provided the informative demonstration. Grammatik proofreads your documents for errors in grammar, style, usage, punctuation, and spelling. Look for a review of Grammatik in Hard Copy in the near future. Siegrid was accompanied by Kellie Mecham, Public Relations Manager of Reference Software. After the demonstration was completed, Kellie passed out gifts to members who asked questions about Grammatik. The gifts included ball caps and mouse pads. The highlight of the meeting was the drawing for Grammatik. Kellie & Siegrid gave away eight Grammatik packages to club members. The lucky winners were:

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Why Graphical Interfaces?

by Jan Fagerholm

PC Clubhouse, September 1990

Graphical Interfaces have come to the forefront because current machines have the horsepower to run them fast enough to be useful. (Translation: "not so slow as to be frustrating.")

In order to make computers more useful to more people, Steve Jobs (co-founder of Apple Computer) carried the ideas that he saw being developed at Xerox PARC to some extremes. Jobs saw that computers are difficult to learn and use because you have to learn an arbitrary vocabulary (commands and parameters) and learn to type before you can communicate with it. In addition to these skills, you have to learn a bunch of arbitrary keystroke combinations that execute the software functions that actually do the work. (All of this is

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Club Officers

President George Campbell
Vice President Sam Powers
Treasurer Bernice Meador
Secretary Bob Ward
Editor John Ewing

New SLO Bytes Computer

We will have a new computer by the end of the next meeting. Bob Hunt will show you just how easy it is to put one of these together. Here is what we will have when it's all in the box:

386SX montherboard (20 mhz)
4 megs RAM
I/O - 2 ser, 1 parallel
clock calendar
1.2 & 360K half height drives
IDE - 100 Meg hard disk
case with 220W power supply
VGA video card (512K)
VGA monitor
101 keyboard
mouse

About the only thing this system won't support is CAD programs unless we buy a math co-processor. But I don't think we will be demonstrating any program like that in the near future anyway.

The Compaq computer we had dedicated to the meeting for demonstrations will be used in the library for copying disks. By the next meeting we also hope to have a second computer set up with a 3.5" 720K floppy drive.

Our sincere gratitude to Bob for making this possible. The components are being bought at his cost . . . no profit to him. I said SLO Bytes would at least treat him to dinner after the meeting. If we can't pay him, we'll feed him!

A little background about Bob Hunt. By trade he is known as Hunt Heating and Air Conditioning in Atascadero. Although he would be happy to repair your furnace, his first love is computers. He builds custom computers, troubleshoots hardware problems, replaces components, integrates systems and installs and supports business accounting software.

A LIVE "TREE" Keeping A Copy of Your Hard Disk Directory Structure.

by Norman T. Welford

FROG Computer Society
[Reprinted from the Lilypad, November 1990]

As an aid to restoring my hard disk in the event of a crash, it seemed to me that it would prudent be to have a copy of the subdirectory structure on a floppy disk. But how to get it?

XCOPY copies empty subdirectories, and also ignores files before a specified date; so this should work. However it will not copy anything if it does not find at least one file. That need not be a real file, just an entry in the FAT.

I made a zero length file, named it -ZERO so it showed first in a sorted directory, and changed the date to 12-31-99. I then entered the following command:

```
XCOPY C: A: /E/S/D:1-1-99
```

XCOPY found -ZERO, and then proceeded to copy the complete subdirectory tree from the hard disk to the disk in the A: drive, and put the -ZERO file in the A root directory. I also put a copy of XCOPY on the disk in the root directory to use when copying the tree back to the reformatted hard disk.

To make the zero-length file, invoke DEBUG. At the program prompt (-), type N-ZERO and press Enter; at the next - prompt, type W and press Enter. DEBUG will report "Writing 0000 bytes"; at the next - prompt, type Q and Enter. This will exit DEBUG. The file -ZERO will be in the directory from which you invoked DEBUG and have a length of 0 bytes.

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Computer News

By Bob Ward

SLO Bytes PCUG

Our US Commerce Department is at it again. This time it's not Japanese computer chips but computer screens used on certain U.S. lap top computers. They are accusing Japan of dumping them on the American market and ordered these companies to pay anti-dumping duties on their imports. Compaq computer uses these flat-panel screen displays exclusively on their lap tops and understandably doesn't want to see the price go up. It would probably be easier for Compaq to buy these screens from a U.S. manufacturer EXCEPT for the fact, NO U.S. screen manufacturer makes this type screen. Anti-dumping?

The California drought hits us all, including computer component manufacturers in Silicon Valley. The Feds have been talking about cutting the water supply to Santa Clara valley by 75%. Chip production requires a large amount of water. Many companies are already conserving up to 35% of their pre-drought use. Further cutbacks threaten many manufacturers with production slowdown, lay-offs or possible closure.

The International Electron Devices Meeting was held in San Francisco this past December. At that meeting, IBM demonstrated a breakthrough in chip-making technology which will better insulate individual components on the chip and increase their speed. Circuits are made from pure thin layers of silicon sandwiched together. Sometimes current leaks between the layers causing errors. Now IBM is insulating chip components with layers of silicon dioxide. So far they have been able to create circuits which switch off and on three times faster than similar circuits made of pure silicon.

###

Project "Letters from Home"

GENie communication service in conjunction with the U.S. Armed Forces, the Saudi American General Electric Company, GE Rents and Pitney Bowes Inc., is sponsoring Project Letters from Home.

Here is a way to send **FREE** electronic mail via your computer modem to friends and relatives serving with the U.S. Armed Forces in the Persian Gulf region.

Letters sent via this service will be received and printed on computers and printers supplied by GE Rents. The mail will then be folded, inserted and sealed in envelopes using equipment provided by Pitney Bowes. The letters will then be given to the U.S. Armed Forces for delivery to the designated serviceperson.

INSTRUCTIONS

Before sending a Letter from Home you must know the following information about the intended recipient:

Name & Rank -
Social Security Number -
Unit or Ship Name -
APO or FPO Number

ALL the above information must be entered correctly for the letter to be sent to and received by the intended recipient.

The system will first request some information from you about yourself. This information will be used for statistical purposes only - for security reasons it will NOT be printed on the letter or otherwise be disclosed.

Each letter may contain up to 40 lines of text with a maximum of 80 characters on each line. Letters may be entered interactively (on-line) or they may be created off-line in a word

processor (ASCII text, non proportional font) and uploaded into the system.

When you first enter "Letters from Home" all the above information and much more will be given to you. I suggest "capturing the session" while using your modem software. If you are using Qmodem this is done with the Ctrl-Home key. Other software may use a different "hot key" combination.

HOW TO GET ON GENIE

San Luis Obispo has a local GENie phone number. It is **541-3215** and the communication parameters are 2400-7-E-1 (1200 baud if you don't have 2400). After the modem answers GENie press the "h" key on your computer once (do not hit the Enter key afterwards) and wait for the symbol U#=. Then type in the word LETTERS (Enter) and follow the directions, some of which I have already mentioned in this article.

From Our BBS..

MESSAGE: 1542
DATE/TIME: 02-13-91 2:48a
FROM: JOE EMENAKER
TO: BRIAN MCCURLEY
PRIVATE: NO
SUBJECT: **Hard disks for PCs**

I just posted about the IDE drive in a post about 20-30 messages back. Go look for it. The first type of recording was called Frequency Modulation (called 'FM') and then somebody improved it and called it "Modified Frequency Modulation" or "MFM". Now the thing that changed between these formats was the maximum number of data bits you can have before you need another clock bit. Clock bits are used by the drive to make sure that it's getting the bits at the rate that it THINKS it it. Since your hard drive can only house a certain number of bits, period, you want to have as few of them devoted to clock bits as possible... so we can have more data bits. I'll get back to this in a second. Anyway, this method ("MFM") is also

a version of "Run Length Limited" format. MFM's name, in RLL terms, is RLL 1,5 or something like that. So later, somebody comes along and figures out how to get the data bits on the disk increased by 50%. They did it by lowering the number of clock bits on the disk. So this next method is something like RLL 3,7, but is **POPULARLY KNOWN AS JUST "RLL"**. This is the thing you see advertised as RLL.

Three things you should know about RLLs: 1. Since there's 50% more data bits, there's 50% more storage. 2. Since there's 50% more data bits (on a given part of the disk), the transfer of data from the disk to the controller is increased by 50% (from .5million bits/sec to .75 million bits/sec, or it might be ten times that anyway). 3. The fewer clock bits requires that the drive be more accurate with the speed that it's spinning the platters. For these reasons, just about any MFM drive can be turned into an RLL just by changing controllers and

re-low-level-formatting. The risk you take, when you do this is that the MFM drives weren't designed to be that accurate.

So what does Seagate do? They put better electronics and motors on their old MFM's and pow, you've got an RLL drive. The RLL drives are just MFMs that have slightly better accuracy. That is why you may have noticed that, for every MFM drive, there's also an RLL drive for sale that's 50% larger... they're the SAME DRIVE. The Seagate ST-225 and the ST-238R are the same thing... same with the ST-251 and the (whatever their 60MB RLL drive is). So you can hook your MFM drive up to an RLL controller, but you might be taking a risk. Some MFM drives go RLL quite nicely, like Miniscribes. I've heard they work fine in RLL format.

Only PUBLIC messages that might be of interest to our whole club are published here. SLO bytes publishes these messages "as is" and does not accept responsibility for their content. ed.

Easy DOS It!

by Bob Ward

SLO Bytes PCUG

Face it, short of being a genius or having an IQ over 200, we all need some help when first starting out on computers. Sure, the MAC people will say it's intuitive. But then, if you came from a very affluent background you might wonder what that little round can is good for in the lower right hand corner.

Author Ron Bauer tries to dispel some of those myths on DOS with his two books *Easy DOS It I* and *II*. The first book is 78 pages long and covers DOS for Floppy Disk Computers. Series II, is 138 pages in length and goes beyond book I by including the mysteries of Hard Disks.

Series I

This book is divided into the "essential eleven" DOS commands as described by the author. They include the computer system, memory, floppy disks and disk drives, DOS, booting a computer, how to look at files, preparing disks and copying files, and making backup disks.

Quickly a new user finds that reading about computers requires you to learn the English language all over. Knowing this, the author has taken each new computer term and definition and appropriately placed it in a framed box in the accompanying paragraph. The chapters are very basic and elementary, but in thinking back some time ago, he answers the very questions I had as a new user.

Later in the book, around the Boot chapter, you a chance to try some things on your own, such as setting the time and date and switching from one drive to another. The next chapter covers files, how to name them, what you are looking at and what to do with them. I found this part of the book weak. Although he

covers filenames and extensions, the book says little or nothing about which files are executable. The first thing most new computer users want to do is run something on their computer. If it isn't COM, EXE, or BAT, it wont run. This wasn't mentioned in this chapter.

The chapter on preparing disks, formatting, diskcopy, etc. is complete and simply stated but lacks the detail I would like to see in such a chapter. Most beginning computer books spend a paragraph or two explaining tracks and sectors. Often they show a simple picture of a floppy disk describing how the tracks and sectors are laid out on the media. A description of the different formats of floppy disks; 5.25" by 360K, 3.5" by 1.44 Meg, etc., is also appropriate here. Remember trying to format a 5.25" high density disk in a 360K drive and wondering why it didn't work?

The next chapter, and perhaps the most complete, goes into some detail how to copy and diskcopy files and disks. He does a credible job here. A reader who follows directions closely shouldn't get into trouble.

Series II

This book is dedicated to people who are beginners and have the added problem of owning a hard disk. I call it a problem for new users as sub-directories complicate the picture for many. The first two chapters are similar to book I and cover formatting disks and copying files. From that point it covers hard disk directories, subdirectory commands, backing up your hard disk, batch files, review and reference.

Although these books are dedicated to DOS commands, a whole chapter on the DOS BACKUP command leads one to believe this is the only way to backup your hard disk. Since DOS BACKUP is so archaic and slow, just mentioning other commercial backup up programs would be ap-

propriate here. Use PC-Tools Backup or FastBack just once and you will erase DOS BACKUP from your hard disk. The last chapter covers hard disk low level and high level formatting. I wish formatting a hard disk with debug was as easy and straight forward. What happens when your hard disk comes with special formatting software or your controller doesn't have a Bios that recognizes debug? Nothing mentioned here. Unfortunately this does occur regularly with hard disks although the reader is not made aware of this.

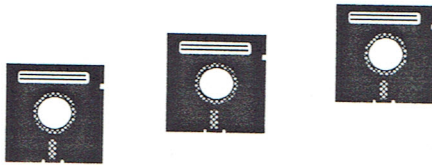
Conclusion

Both books are simple to read, straight forward in their approach and appropriate for new users. I did ask myself the question, "why two books?" Most computers sold today have hard disks, so why not combine both books into one that covers all the DOS commands and subjects covered in two books. The front page of each book says, "Over 200,000 Sold!" To me, it looks like many people bought both books to cover all the subjects. Lastly, and this goes for any manual requiring the simultaneous use of a computer and a book, please spiral bound your manuals. It is difficult to read the book with my head laying sideways on the computer table as the book closes, and look at the computer screen at the same time.

Both books can be purchased through your local book store (ISBN 0-942019-05-9) or from the publisher. Easy Way Press Inc. P.O. Box 906, Rochester, MI 48306-0906 Phone (313)651-9405

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Bob Ward is the Secretary and Librarian for SLO Bytes PCUG and contributes often to Hard Copy. ed.



SLO Bytes Library

Check out these programs which will be added to our library this month:

#336 MUSIC_TS - Music Transcription. Write, play and print music.

CHEMICAL - Molecular modeling and display program.

CHPAL240 - This program called Chem Pal helps you learn the periodic chart. Also good reference to chemical elements.

#337 Spreadsheets:

ASA40Q - As Easy As spreadsheet, version 4.0.

EZSPREAD - another spreadsheet.

#338 Programs for the New PrintShop:

NEWPS_GR - a large number of graphics for the New PrintShop.

PS-CAT - catalog, delete or change graphic files for the New PrintShop. Note that the above programs work only with the latest version of PrintShop.

#411 VGA-CADD:

As it says a full CAD program for use with VGA systems only.

Updates:

#271 - Professional Master Key updated to version 3.0

#277 - Professor Weissman's AL-GEBRAX ver 1.91

#301-303 - PC-File 5.01

#407-410 - PC-Type 4 (formerly PC-Type II on #336-338)

SLO Bytes will no longer support the floppy based version of the file locator disk. The hard disk version will continue to be updated monthly and may be copied from the library or purchased from our treasurer. The hard disk version must be installed to your hard disk or a high density 5.25" or 3.5" floppy disk.

New Members

My appologies to our new members who joined us in January. No excuse, I just forgot to give the editor your names. Anyway, WELCOME to SLO Bytes. We hope you will enjoy your stay and that we can be of assistance to your computer needs.

New Members - January, 1991

James Allen	542-9612
Danial Bowlin	481-7907
Lee & Martha Burkett	544-1106
Gaylord Chizek	541-1435
Wayne Custer	773-5825
Don Diller	473-0512
Jack & Diane Gatz	544-1194
John Niblett	772-8815
Jeff Spry	544-3127
Thomas Thompson	481-3609
Richard Threlkeld	528-7390
Elizabeth Yost	545-8422

New Members - February, 1991

Cortez Cate	473-0293
Charles Comey	461-9690
Thomas Conroy	481-2881
Jerry & Carla Ferris	473-1301
Charles Goldberg	528-2013
Walter Heffner	772-7174
Mark King	544-3266
Duane Kukuk	239-0534
Tom & Mickey Muran	481-9340
Richard Romine	543-5002
Eric Schug	489-4720
Mary Scrivner	466-2653
James Simmons	481-1378
Linda Taylor	995-0186
Ed West	773-0364

###

A Live "Tree"

Now if you have to reformat your hard drive, put the directory tree disk in the A:drive and enter the command:

```
XCOPY A: C: /E/S/D:1-1-99
```

This will put all your subdirectories back on the hard disk.

###

FLOPPY DISKS 4-SALE at the meeting

Royale Grey DSDD 360K
Unformatted Floppy Disks
with labels, tabs, and sleeves
70 Cents Each

MEI DSDD 360K
Unformatted Floppy Disks
with labels, tabs, and sleeves
50 Cents Each

High Density Disks 1.2 MEG.
75 Cents Each

3.5" 720K
Unformatted Floppy Disks
90 Cents Each

New Library Disks
90 Cents Each

What's New

Paul Bostrom	Bob Gold
C. Goldberg	Dave Hamel
Gil Hoffman	Shirley Smith
Sig Wedeking	W.O. Avery

Congratulations to the winners. Remember, if you want a chance to win prizes at the club meeting, you have to be present and you have to be a member.

The meeting in March will be very interesting. Bob Hunt will build a "386 computer for the club. See the article on page 2 in this issue for more information.

Bits n' Bytes

No one claimed the 3.5" disk box left in the library during the January meeting. It's still looking for a home.

Hard Drive Update

by Barton Koslow

Sarasota IBM-PCUG

[Reprinter from Blinkin Cursor, September 1989]

Up until a few years ago, purchase of a hard drive was almost prohibitive in cost. The few that were sold had a five or ten megabyte capacity with the whoppers having 20 MB. Today, 10 MB drives are not even manufactured, 20 MB drives are considered very minimal with 40 MB becoming very common. Most of us either have or will be buying hard drives in the near future. What are some of the characteristics we should consider? All software programs must read and write to the hard drive. RAM execution time is in nanoseconds (millionths). Access times (the time for the read/write head to find the proper data sector and begin to read or write) for hard drives run in milliseconds (thousandths). Furthermore, the most common data transfer rates (transfer rate between the drive and RAM are 125 to 175 kilobytes per second for 8088 CPU machines and 240 KB per second for 80286 CPU machines, and even for many 80386 CPU machines. You can readily see that a hard drive is the speed bottleneck in any system. Therefore, if we wish to increase the performance of our system, this is an important place to begin. Most of the less expensive drives like the Seagate 2255, 20 MB or the Miniscribe 3650 do not have automatic head parking! What does this mean? The heads on a hard drive float on a cushion of air above the drive surface. When the drive is stopped, the heads will fall onto the data tracks, unless they are parked. Parking means the heads are moved to the edge of the drive platter where no data exists and are locked in place until the drive is started. Failure to park heads will eventually lead to damage to the data sectors of your hard disk and ultimate loss of data. A drive with automatic self-parking heads (when turned off) is desirable.

In any event, use a software head parking program to park the heads before you turn your hard drive off. We have a number of head parking programs in our library.

We mentioned average access time as being important. A slow drive like those being used in the IBM PS 25 or PS 30 has an average access time of 85 milliseconds, the Seagate 225 has a time of 65 to 70 milliseconds (still slow), the Miniscribe 3650 - 65 milliseconds, the Seagate ST 251-0 - 40 milliseconds, the ST 251-1, 28 milliseconds (fast) etc. A real fast drive may have an average access time under 20 milliseconds. In my opinion, while this is an important parameter, the most important consideration is the data transfer rate achieved. This is a result of the CPU, the controller being used, and the particular drive. Furthermore, for each combination of CPU, controller, and drive, there is an optimum data transfer rate which may be obtained. Most hard drives when installed, or received from the dealer, are far from the optimum data transfer rate. We have the software tools in our library to measure access times, data transfer rates, and help you optimize the data transfer rate. Once you have purchased your hardware, the optimum data transfer rate for this hardware is obtained by using the correct interleave factor when your drive is physically (or low level) formatted. A low level format should not be confused with the DOS format which is done after a low level format.

What is interleave? A hard drive spins at 3660 RPM. At that speed, many controller-CPU combinations cannot process data being read continuously from a hard drive track. In order to solve this problem, the hard disk read head is programmed to read a track sector and then skip a fixed number of sectors, then read another sector and skip the same number of sectors, and so on. For example, there are 17 sectors per track on the common MFM drives. If we read track 1, skip sectors 2 and 3,

read sector 4, skip sectors 5 and 6 read sector 7, skip 8 and 9, etc., the data is sent to the controller and CPU 1/3 as fast as if we read each sector consecutively. Skipping every two sectors is an interleave of 3. As you can see, to read the entire track will take 3 revolutions of the hard disk. The first time we read sectors 1, 4, 7, etc., the second revolution we read sectors 2, 5, 8, etc., and the third revolution we read sectors 3, 6, 9, etc., until all of the sectors have been read. Wouldn't it be nice if we could read each sector consecutively, an interleave of 1 (or no interleave)?

Most 8088 (PC-XT type) machines using the common Western Digital XT Controllers are interleaved optimally at 4 with a data transfer rate of 170 kilobytes per second. Most 80286 (AT type) machines with the ever present Western Digital AT controller are interleaved optimally at 2 with a data transfer rate of 245 KB per second. How often upon testing an XT have we found data transfer rates of 30 KB per second due to the wrong interleave? Frequently! The effective interleave was 17!!! This may also occur if the interleave is set to low. If you buy an OMTI controller for the XT you may be able to improve your interleave to 3. On an AT there are controllers made by Adaptec, OMTI and Western Digital that will interleave your drive at 1, thereby doubling your optimum data transfer rate to almost 500 KB per second.

My present drive has an average access time of 34 milliseconds, and an interleave of 1 with a data transfer rate of 798 KB per second. How is this accomplished? In addition to the now common MFM hard drive interface, there are RLL, ESDI, and SCSI drive interfaces. My RLL interface packs 27 sectors per track instead of the MFM 17. It is 50% faster than MFM, but not as reliable. IBM, in their PS 60, is using an ESDI interface which has a theoretical data rate of 1.2 Megabytes per second if using a 1

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Why Graphical Interfaces?

a carry-over from the days of Teletype terminals.) His solutions eventually became the MAC.

To overcome the problem of learning a command vocabulary, PARC developed the idea of using icons, or symbols, to represent different tasks. One would accomplish the task by pushing a "button" on the screen with the proper icon on it, much as you select a soft drink from a vending machine by pressing a button with its picture or logo on it. This idea is prevented from being awkward only by the use of some sort of free-form pointing device; cursor keys are too limited in their ability to move a cursor freely across a screen (as anyone who has used Turtle Logo will testify). Eventually, the PARC people developed the mouse to accomplish this task. When the Mac was in the design stage, Jobs was insistent that more than one button on the mouse constituted another form of keyboard to present the user with another potential source of confusion. He felt that software developers would inevitably assign different functions to different mouse buttons (and different combinations of mouse buttons) and make them as difficult to remember as keyboards. There is a certain wisdom to this, though Mac detractors have said that Jobs did not show any respect for user's intelligence, as he did not leave them any choices.

Menus are another way around the vocabulary problem, because (ideally) you only have to learn one keystroke or combination to be presented with all the choices (verbs) available. Quick reference cards serve the same function, but are considered inelegant alongside of our dynamic electronic marvels. (e.g. If this thing is so smart, why can't it help me?) Imperfect as keyboards are as a method of communication, they do constitute a fairly widespread standard (thanks to the typewriter) and provide a

reasonable way to communicate with mechanical and electronic devices.

To me, the trick to making a computer useful is to provide a way to communicate with it that requires little or no learning to accomplish much of what I want, while having the built-in facilities that I can learn as I go along to allow me to do more than the little that I knew when I started. Example: If a person who knows how to use a typewriter sits down with a word processor, there are certain things that (s)he expects to do without a lot of learning, like type onto the keyboard, correct simple mistakes, and get a printed copy of the typing. These are the things that (s)he already knows how to make a typewriter do. Once this basic functionality is established, (s)he may be inspired to figure out how to make the word processor perform some editing functions like block moves and deletions, or to improve the appearance of the output with different type styles, or even translate the text into another language.

If the computer in question is keyboard-driven, then the function keys may be employed for the basic level of functions. If the computer in question is mouse-driven, then pull down menus on the screen may be accessed by pointing to the menu bar with the mouse and clicking the mouse button to bring them into view. Once you use up the discreet function keys on the keyboard-driven machine, accessing more functions may involve use of key combinations, such as Shift- or even -Alt-. There are at least 96 possible key combinations available on a typical PC keyboard, just using the obvious and easy ones. I don't know about you, but I can't memorize all of these in one sitting. The "quick reference" cards for any major program is usually several pages long. If the computer is mouse-driven, then you find that functions are "nested," where selecting the first menu brings up a choice of more menus, which may bring up a choice of even more

menus, depending on how complex the function is. The advantage here is that you can bring up all the choices to see. This is particularly useful as a memory jogger for seldom used functions, without the necessity of abandoning the computer to read a card or book to find out how to do what you want to do.

Inevitably, some functions that you use quite often will require some input from you to tell the computer how (out of several possible ways) that you want something done. For example, when you want to print something, you wade through several menus before the printing is actually done. The dialogue steps may go like this:

YOU: I want to print this.
 BOX: Okay - from the screen, or from a disk file?
 YOU: From the screen.
 BOX: Okay - just the screen showing, or the whole thing?
 YOU: The screen showing.
 BOX: Okay - letter quality or draft?
 YOU: Draft mode - I just want a quick look at it on paper.
 BOX: Okay - formatted or unformatted?
 YOU: AARRRRGGGGHHHHH!!!!!!!

To avoid this dialogue every time you want to use a command sequence repeatedly, the really intelligent interface will let you write macros to execute the choices that they couldn't guess that you would want to use often, with a single keypress. This is an area where many Mac programs come up short--most of them were written without any sort of keyboard shortcuts, but instead make you go through the menu structure with the mouse to do everything.

However, the newer Mac software is beginning to employ keyboard shortcuts, and you should see the look of enlightenment on a Mac user's face when you point out that

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Hard Drive Update

to 1 interleave controller (however their controller is not 1:1 interleave). Seagate makes drives from 30 MB on up that use the SCSI interface (common on Apple computers), which has a maximum data transfer rate of 1.5 MB per second. AT present there is no common standard for SCSI drives. You must buy the controller and drive from the same manufacturer. An industry committee has been formed (led by Seagate) to promote a standard for the new SCSI II interface, which is reputed to be four times faster than the present SCSI interface. This would give a data transfer rate up to 6 MB per seconds!!! SCSI is the wave of the near future.

If you wish to maximize the performance of your present hard drive, use the software in our library to test and optimize your drive. Furthermore, use a head parking program if your drive does not have automatic head parking. If you are opting for a new hard drive or controller in the near future, look for self parking heads and fast average access times. Even more important, if buying an AT or 386 type computer demand a 1:1 interleave controller and look into RLL, ESDI or SCSI interfaces for the fastest data transfer rates. Don't accept second best.

Barton Koslow is Head Librarian of the Manasota IBM-PC User's Group, Sarasota, FL.

Check out the SLO Bytes BBS post regarding IDE Drives on page 3 of Hard Copy. ed.

Calendar

March 3rd Come watch SLO Bytes Member Bob Hunt build our club 386-SX computer.

CHKDSK & RECOVER

by Hugh Bayless

MBUG-PC, September 1989

Dos contains the command CHKDSK which can do a couple of very useful things for us -- and it can virtually trash your hard disk.

The two main things CHKDSK is good for are: first, it will check the hard disk to see how much is in use, then it checks for any discrepancy in the use of space. It reports this on the screen, including the number of files and the number of hidden files. Second, it reports on the amount of memory available in the system.

Running CHKDSK regularly is harmless and a very good idea. It keeps you informed on the status of your disk and its files.

It is when you get a message like "XX lost clusters in YY chains", or "File.xyz is cross linked on cluster nn" that you need to be very careful. CHKDSK is quite prepared to help you fix the problem. If you run it with the "Fix" switch by typing CHKDSK/F, you start the process.

When running CHKDSK/F, when it finds anything that needs fixing, it will fix it by erasing "lost" clusters and removing the directory entries for them. It then creates a new file called FILE0000.CHK out of your original file, making your file(s) even more difficult to recover.

RECOVER is a powerful but even more dangerous tool. It does two kinds of limited file recovery: First, it will remove unreadable parts of a file and save the rest. Second, it may assume that the directory is damaged beyond repair, so it throws away the entire directory and writes a new one with its own arbitrary names on the files it creates.

Try unscrambling that mess!

With such good file recovery and hard disk repair programs as Mace Utilities and Norton Utilities, to name a couple, it is foolhardy for anyone but an expert to use CHKDSK and RECOVER to recover files or repair disks.

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Hardware for sale
Star Gemini Model 1210
9 pin Dot Matrix Printer
Uses typewriter ribbon \$150.00

Amber monitor
Call Tom or Rennie Law 528-5139

I have a few pieces of software available for sale. Most of them are one version back of the current They all include documentaton and original disks. They are as follows:

- | | |
|---|------|
| 1. Norton Backup (new) | \$10 |
| 2. CopyIIPC Ver. V | \$5 |
| 3. Norton's Utilities Advanced. Ver 4.5 | \$8 |
| 4. Paradox Ver. 3.0 | \$50 |
| 5. File Express Data Base Easy to use but nice. | \$5 |
| 6. Quarterdeck's QRAM. Memory enhancement tool for 8088, 8089, 80286 PC'S | \$25 |
| 7. Word Perfct Workbook. Ver 5.0 | \$5 |

You can call me at 543-9154
Ken Jones

Why Graphical Interfaces?

the function they are calling over and over again through third- and fourth-level menus can be accomplished with the single press of a key. The current state-of- the-art for user interfaces, then, is menu-driven and has shortcut keys and a macro facility. Regards the WINDOWS-DOS argument, we already have these tools available in our best programs--why not in our operating systems?

Club Information

The SLO BYTES Newsletter is a monthly publication of SLO BYTES PC User's Group located in San Luis Obispo, California. Information in this Newsletter is derived from both our own membership and other PC User Group Newsletters. The purpose of this publication is to inform our members of meetings and provide information related to the use of IBM PC's and compatible computers.

Membership: Dues are \$20 per year. Newsletter only is \$12 per year. Full membership entitles you to our monthly newsletter, full use of the public domain software library and discounts at local computer stores.

Article Submission: Deadline for submission of articles is the 15th of each month. Articles should be provided in ASCII format without any type of formatting from your wordprocessor including tabs, indents, extra spaces, or highlighting. We prefer articles on disk but will accept hardcopies if necessary.

Disclaimer: Neither SLO BYTES PC User's Group, its officers, editor, or contributors to this newsletter assume liability for damages arising out of this publication of any article, including but not limited to the listing of programming code, batch files and other helpful hints.

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Direct all correspondence to Bob Ward, 2100 Andre Ave., Los Osos, CA. 93402. Call (805)756-2164 M-F 7:30am - 5pm and (805)528-0121 all other times.

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Meeting Times

General meetings are held the 1st Sunday of every month, unless noted otherwise in the newsletter calendar, at 2:30 pm in the Cal Poly University Biology Department, Fisher Hall 286. Special Interest Groups (SIGS) meet at 1:30 - 2:15 pm.

New User's SIG - F.H. 286

Our Public Domain Library is in Fisher Hall 292. Hours 12 Noon till closing.

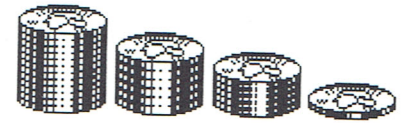
SLO BYTES BULLETIN BOARD

(805) 528-3753 2400/8/N/1

PC Files & Message Section

SYSOP: George Campbell

All Welcome - 24 Hours



Treasurer's Report

SLO Bytes PCUG Expenditures February, 1991

Beginning Balance:	+1737.46
Expenses:	
Newsletter 01/22/91	-109.23
Floppy Drive	- 17.50
	== =====
	-126.73
Deposit 02/04/91	+529.00
	=====
	+529.00
Balance 02/04/91	+2139.73

DISCOUNTS

Star Computers 855 Morro Bay Blvd. Morro Bay 772-7827	5%	Any software in stock.
Computer Logic 973 Foothill Blvd. #4 San Luis Obispo 544-8347	10%	Paper, ribbons, cables, and other supplies.
WITCO Computers 3563 Sueldo, Bld. B San Luis Obsipo 549-0811	10%	Off list - all computers, software, computer peripherals, and products. Contact Bruce, Paul or Dave for discount.
Los Cerros Computers 11545 Los Osos Val. Rd #A3 San Luis Obsipo 544-6399	15%	Off complete systems, peripherals, supplies but not including software.
	5%	Off computers alone.
	20%	Above cost on computers and computer peripherals.
		Above cost on software & supplies (Cost includes shipping & handling)

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 PC-Computing - \$14.97
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