

# HARD COPY

## What's New

By John Ewing

If I had to describe Decembers meeting in one word, I would have to say "fun".

To put it in George Campbell's words, "December tends to be the looniest meeting of the year".

George reported on the Comdex meeting that he and Bob Ward attended. According to George, Comdex was more of the same (a little bigger, better, faster and more expensive). George was especially impressed with a product introduced by Edsun. Edsun has developed a chip for VGA that divides each screen pixel into several pieces. Each of the pieces can have a different color. The effect is that the resolution of 640x480 monitor is increased by eight times. With this chip installed on the VGA board, the "jaggies" are nonexistent on diagonal lines, curves and fonts. You will also have access to over 127,000 colors on the screen at the same time. George told us that, with the exception of initial introduction, the cost of this

chip should not increase the price of a VGA board, since the manufacturing cost is approximately the same as the chips currently found in VGA. Personally, I think this is a pretty exciting development. Look for the Edsun chip to hit the market within the year.

The keyword for software this year was Windows. All of the manufacturers had their Windows 3.0 product on display. George will be getting a beta copy of Wordperfect for Windows sometime next year and will give us a report on his findings. From what he saw at Comdex, Word for Windows should be an exciting product. There are also several programs coming out that will let you design your own programs very easily through windows.

After the Comdex report, the rest of the new users meeting was turned into a question & answer session (otherwise known as "Stump George"). In all honesty, most of the

questions dealt with sincere requests for help.

During the main meeting, we elected the club officers for 1991. For some reason, all of the candidates ran unopposed. The only office that will seat a new officer is Treasurer. The President, Vice President, Secretary, and Editor will continue the tradition from 1990. The Officers for 1991 will be:

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

Our departing Treasurer, Teri Sor-gatz, will be leaving the area in January. I wish Teri all the best. Thank you for all of your hard work and dedication to the club. We will all miss you.

Bob Ward discussed some ideas that he and George brain stormed during their long drive back from Comdex. Among the suggestions  
*Continued page 7*

## CONTENTS

What's New	1
DOS 4.0 Large File Support	2
The Night Before Deadline	2
Computer Logic for the Lottery	3
Toshiba Screws	3

Have You Heard This One...	4
Drive Type Tables	5
A Typical Instruction Manual	5
And The Winner Is...	6
Software Library	8
Calendar	8
New Members	8
Treasurer's Report	9

### Club Officers

<b>President</b>	George Campbell
<b>Vice President</b>	Sam Powers
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<b>Secretary</b>	Bob Ward
<b>Editor</b>	John Ewing



## DOS 4.0 Large File Support

By Wyn Easton  
IBM Marketing Support Rep.

I was curious about the way DOS 4.0 allocates and locates data on large fixed disks. During my research I found several interesting points.

I had heard that the File Allocation Table (FAT) entries were now 32 bits long. This did not turn out to be the case. The entries are still 16 bits. The space allocated to the FAT did increase to 64K.

One thing that changed is the Master Boot Record Partition Table. This is what ROM BIOS reads to find the "Bootable Partition" on the fixed disk. The "System Indicator Byte" is now 06H which was "Reserved for future use" in earlier versions of DOS. The

System Indicator Byte is used to determine the way the fixed disk is partitioned.

After talking with one of the developers that helped write FDISK for DOS 4.0, I found out that the 06H indicates one of two things. If the primary partition is greater than 32MB or if the primary partition extends past the 32MB boundary 06H is used as the system indicator so earlier DOS versions will not try to read the disk.

This is necessary because earlier versions of DOS are not capable of accessing disks larger than 32MB. Earlier versions of DOS use one word (16 bits) to access logical sectors.

The next thing that changed is the Boot Record. Programs that use the Boot Record to calculate disk access must be able to read the DOS 4.0 Boot Record to work properly. In the earlier versions of DOS at offset 13H of the Boot Record

was a word (2 bytes) that indicated how many sectors were on the fixed disk.

When DOS 4.0 FDISK is executed, it calculates the total number of sectors. If that number is greater than FFFFH (64K), a zero is placed at offset 13H of the Boot Record. The total number of sectors is placed in the double-word (4 bytes) at offset 20H of the Boot Record. Programs that do not know this think that there is only one sector on the fixed disk (zero based).

So, all of their calculations for finding the FAT and Root Directory are wrong. Newer versions of this type of program should know how to read the additional information in the Boot Record. One other important thing that changed is the cluster size. A cluster is the way DOS allocates space on the disk. ROM BIOS (Interrupt 13H) accesses space on the disk in sectors which consist of 512

*Continued on page 7*

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## The Night Before Deadline

By Felix Furber

Twin Cities PCUG

'Twas the night before deadline and  
all through the house  
Papers were flying, all chased by a  
mouse.  
The articles all were downloaded  
with care,  
And the discs brought by sneaker net  
soon would be there.  
The Editor hovered over printouts  
with dread,  
While visions of redlines danced in  
his head.  
Out goes a comma, then slash to  
some caps,  
And he settles down to a long draw  
out hack.  
When over at the keyboard there  
arose such a clatter,  
He sprang from his chair to see what  
was the matter.  
Away to the screen he flew like a  
flash,  
Only to find that the program had  
crashed.

More rapid than eagles his actions  
became,  
He hollered and shouted and called  
the machine names. "now blast you  
and damn you, you wretched  
contraption.  
You try me and tease me to utter  
distraction.  
Out of the window, and over the  
wall, I'll kick you and throw you and  
hold you in thrall."  
His temper so wild, like a hurricane  
flies,  
And murderous sparks shot out from  
his eyes.  
So up to the keyboard, his chair he  
drew  
With a snarl and a mutter (and some  
prayers too!)  
And then, in a twinkling, Ventura  
gave proof  
That sometimes computers play up  
and goof.  
He sat back and watched, with relief  
so profound

As the articles all came back in a  
single bound.  
There on the screen the pages all sat  
With their spaces and headers all  
smugly intact.  
The Editor twinkled and chortled  
with glee  
"The Newsletter is saved and I'm  
almost free."  
His face wreathed in smiles, he  
started to work,  
The mouse flew in circles and  
stopped with a jerk.  
And laying his red pencil aside of his  
nose  
And giving a nod from his chair he  
arose.  
He sprang to the printer and with a  
push of the thumb  
It started to print with a satisfying  
hum.  
I heard him exclaim ere he turned  
out the light,  
"The Newsletter's finished, so to all a  
good Night!"



## Computer Logic for The Lottery

By Walter Clark

Capital PCUG

[Reprinted from Ctrl-Alt-Del, September 1989]

Down through the ages new technologies have been adapted for dubious proposes. Also, snake-oil salesmen have been known to pass off worthless products. Now, the charlatans of our time have embraced the computer to practice their trade of duping the public. The thing that set me off on this topic was a postcard I received in the mail that had a headline in big bold letters, "YOU CAN WIN THE LOTTERY." It went on to describe a computer program that sells for \$80.

The postcard in not illegal. Selling the program is not fraud. Using a computer program to select numbers to play the lottery is dumb, but it is often done. I was mad because the advertisement implied that the \$80 investment would improve your odds of winning the lottery. I consider that implication to be false advertising. But there are people who will buy this program. Perhaps blinded by their greed, they will believe a false statement simply because a computer is involved. I don't like computers or computer people getting that kind of black eye.

It is too bad that computers (or any other tool) are used for illegal or doubtful gain, but it happens. The computer has been a boon to "fooling some the people all the time" or "fooling all of the people some of the time."

First of all, the computer has made the marketing of shady remedies much easier. Snake-oil salesmen worked hard transporting their worthless products from town to town in the western plains. Once in town, not many people were interested. So the salesmen had to provide entertainment to attract a crowd.

Today's snake-oil salesmen can easily buy a long list of names. Armed with computers, they can quickly label and

send thousands of cards or fancy letters. Today the townspeople get only the sales pitch. Instead of a little entertainment to temper the obnoxious sales pitch, we get over-stuffed mail boxes.

Let's get back to the lottery. State lotteries are well controlled and watched by everyone who buys a ticket; thus, they are honest. And, even though they are a terrible investment, it can be fun to waste a buck occasionally.

No computer program will ever improve your chances of winning. One of the tricks used to convince a rube says, "if a number has not been drawn recently, it stands a better chance of being the next one drawn." That is false. If you flip a coin three times and it comes up heads each time, you may want to believe that there is a better than fifty-fifty chance that the text toss will be a tail. But the coin has no memory. Each toss is a new experience, with new odds. The outcome of a toss is not dependent on anything that happened before. Trend analysis does not apply to a random process like picking winning lottery numbers.

Don't ever believe that a computer (or any other scheme) will improve your lottery odds. The odds were fixed when the game rules were set. They are constant, and they can be computed by the following formula;

$$C = n! / k!(n-k)!$$

Here n is the total numbers, k is the number of picks (drawn in any sequence) to win, and K! is a math symbol that stands for the factorial of k (the multiplication of all numbers 1 through k). For example, the odds of picking six numbers from a total of 36 is  $36! / 6!30!$  It computers to roughly one chance in two million. The Lotto America requires 7 picks of numbers; about one in 19 million. These odds do not change, and I have saved you \$80.

*Walt Clark is an independent consultant specializing in solutions using the Paradox database and the Quattro spreadsheet. He lives in Woodbridge, VA.*

## Toshiba Screws

By Richard Katz

Ctrl-Alt-Del, September 1990

You remember Toshiba, don't you? They're the nice guys who illegally sold technology to the Soviets which allows them to make submarine screws (propellers) that are so quiet that they avoid detection by our Navy's defenses. Nice going, guys. Nothing that any red-blooded American company wouldn't do if it felt it could get away with it. But I digress.

I use a Toshiba T1200 portable computer which was in great need of a memory expansion. The T1200 comes with 1MB RAM and the manual says that it is easily expanded to two. The manual also says that the additional RAM can be used as "hard RAM," an idea from Toshiba that allows the special RAM disk to remain viable even when the computer is turned off. It's done with a battery backup, you see. How was I to know that the board was designed by Toshiba's special computer user sabotage division?

I bought the very expensive 1MB RAM expansion. I really needed it as programs run like slugs from the floppies. The price was high but so what - I needed the functionality. And I needed the hard RAM!

On the inside of the cardboard RAM upgrade box was my first indication that things were not quite right in Denmark. A little red label, affixed to the inside lid said:

PLEASE NOTE: This memory card has functional limitations which may detract from its performance with the T1200. Please consult the enclosed installation manual for details.

Limitation? That's odd. First thing I'd heard of it! The card is designed to work with the T1100, T1200 and the T3100 portable computers. That's what the original manual said. What limitations?

*Continued on page 6*



## Have You Heard This One...

By Bob Ward

SLO Bytes PCUG

Perhaps you haven't heard of Gilbert Hyatt. After 20 years of battling with major chip manufacturers and the US Patent Office, he was granted a patent on the computer microprocessor. Although one might think it was a large corporation that "invented" the microprocessor, Hyatt had a patent on the chip before anyone else. The dispute came when others said his patent only promoted the principle of the microprocessor. Although his drawings were accurate, he never made a working prototype to prove his patent would work.

Now Hayatt has just received another patent, this time for a technology that triples the speed of the DRAM chip by eliminating unnecessary operations presently found in the chips, thus increasing their efficiency. As long as the tradeoffs aren't too great and present characteristics aren't sacrificed this could be a major breakthrough for computer chip technology.

Remember Ami and Ami Professional, the Windows wordprocessor that took the software market by storm? Apparently Lotus thought it was a good deal too, and bought the company. Over the past year and one-half the stock rose from \$4 per share to over \$19 then dropped to about \$11 before Lotus bought the company for \$18 per share.

US chip manufacturers seem to be making inroads into foreign territory. The Semiconductor Industry Association reports foreign purchases of computer chips by Japan reached 13.3% in the second quarter of this year, up from 8.4% in 1986 when the last US/Japan trade agreement was put into effect. SIA is not pushing for new computer chip trade sanctions in the new agreement which may be good news for all of us by the middle of this year. Hopefully chip prices will fall accordingly.

## Poor Man's Hand Scanner

By Jim Bigalow

SLO Bytes PCUG

Overheard at Comdex '90, following one of the conferences, and amid all of the chances to spend enormous amounts of money, was one of the cutest ideas I've heard in many a year. In fact it took me back to my youth, the way we did things during the depression days. Simplify, simplify, and use what is available.

The object I am speaking of is a hand scanner, one of those things so many of us dream of but can't seem to work into our budget. So here goes.

The first thing one must do to make a "Poor Man's Hand Scanner," is to obtain a sheet of paper, tracing type if possible, lay it on a flat surface, then place your hand, with fingers parted, centered on the paper. The next step requires a stylus, or if that is not available, a pencil or pen will do. Should you want this to be in color, use a crayon. Now, beginning at the left side of the hand, place the point of the stylus on the paper and move it around the fingers, following the outline of the fingers. The next step requires a computer, or at least a monitor, but in keeping with a poor man's standard, an ordinary TV will do. If you don't have a working TV, which I sincerely doubt, as no one in the U.S. would admit, then use the broken one. I will explain later in this manual, (chapter 69), exactly how this is accomplished, although for now, to get this scanner in operation, place a light bulb behind the TV so that the light will shine through the front of the screen.

At this point in the game, as I overheard the instructions, we will need a mouse, which is a hand held pointing device. I know that many of you have never used a mouse nor have one, the computer type that is, but please not to worry. You won't have to run to the computer store and purchase one. The

option is this: use a voice activated mouse. To the best of my memory, one takes a postit note, draws a picture of a mouse on it, and sticks it on the TV screen, upper right hand corner. If you draw arrows on it you can then move it to any part of the screen merely by moving it in the direction of the arrows. But, now remember that this mouse is voice activated. (Write the letters (VAM), for voice activated mouse, somewhere on the mouse.) Now you have a voice activated mouse. You operate it by giving voice commands, (don't get excited, this operation is very simple once learned). For a left button operation one merely has to say, left button, and for a right button operation, merely say, right button. However, a good modern voice activated mouse can be easily programmed to receive even shorter commands, such as the word (click) for a left button operation, or (clack) for a right button operation. I know this can sometimes become annoying, especially when listening to someone else operate their computer at a high rate of speed. One not only hears the hum of the TV screen, but the continuous voice commands, CLICK, CLICK CLICK, CLICK CLACK, CLICK CLICK CLACK, but this is necessarily part of the procedure.

Now to operate the scanner: give the voice command, (CLICK), to choose the scanner and then say (CLACK) to begin operation. Enough of the mouse for now. Next step.

Take your sheet of tracing paper with the outline of your hand on it and place it on the screen of the TV. BEHOLD, if all went well, and you followed my instructions closely, you have now scanned your hand and at little or no cost.

**\$\$\$ - 4 -Sale - \$\$\$ - 4 -Sale - \$\$\$**

Wittaker 386SX .... asking \$2500  
1 - 5.25" HD disk drive, 80 Meg hard disk, Goldstar VGA monitor, Citizen GSX140 printer, 1 meg RAM, DOS 3.3, Microsoft Works



# Drive Type Tables

By Emerald Jones

Ctrl-Alt-Del, September 1989

Every hard drive is assigned a "type number" that refers to a hard drive's size and its logical and physical characteristics. All drives have a certain number of read/write heads, cylinders, and a few other specifics that dictate its capacity, landing zone, "pre-compensation," etc. The type number is a short-cut so that you can tell your PC what drive is installed so that it can be formatted properly. Otherwise, there'd have to be some way for you to input all these numbers. Put in the wrong type number and you'll lose access to some or all of the drive.

Until recently, type numbering was a pretty good system, but it's fallen victim to progress. During early XT and AT days, when it appeared that PCs were here to stay, IBM assigned drive type numbers to different size hard drives that were included in its systems. Eventually there were about fifty type numbers. Since cloners were out to grab a chunk of IBM's business, they adopted the same drive type numbers for their systems and hard drives.

A BIOS on the XT controller carried the drive table. Beginning with the AT, the drive table was put in the system BIOS. So, during the formatting of your hard drive, you told your system that you were installing a Type 6 drive. From that number, the system knew that the drive had four heads, 6615 cylinders, and 17 sectors per track (as all MFM drives) and would format the drive to 21,411,840 bytes or 21.4+, megabytes.

The math?  $4 \times 615 \times 17 \times 512$  bytes per track = 21,411,840 bytes.

For awhile, some drives came from the manufacturer with the type number written on the drive housing. Then came RLL formatting with 26 sectors per track. The industry stretched to accommodate these parameters. About the same time, manufacturers stopped

imitating IBM BIOSes and went them at least one better with more sophisticated BIOSes. Drive controllers appeared with augmented drive tables in their own controllers.

As new hard drives were made that IBM had no piece of, drive type numbers became a "best guess" affair. On top of that, a bunch of weird drives started appearing: removable drives or drives on controller cards, for example. Most recently, large capacity ESDI and SCSI drives are being installed in PCs which require their own utilities to format.

But it appears that no one has a handle on drive types anymore. Yes, each AT BIOS has a drive table, as does the controller BIOS; however, what may be a Type 24 in one system may easily be a Type 36 in another, based on the drive table in a given BIOS. If the system or controller BIOS has no matching type number, the problem Paul Gibson experienced with the Compaq DeskPro, the type definition of the next "smaller," most similar drive must be used, with a corresponding loss of capacity.

The solution? Consider getting a utility that interrogates your BIOSes. To use it, you must know how many heads, cylinders, tracks per sectors and bytes per track to which your drive can be formatted. This information is available from the drive manufacturer. Western Digital and Tandon Computers both have utilities for this computation, at least for MFM and RLL drives. On track, Golden Bow and Speedstar utilities help identify the drives as well as format it. But know that if you upgrade to bigger and better and faster, and I bet you will, formatting your drive may be more of a, um, challenge.

[From Paul Gibson, HAL-PC]: Western Digital has a BBS in Dallas with a great listing of hard drive statistics, downloadable user manuals for all WD controller cards, and several nice utility programs including one that will read your BIOS's drive table and

display it. The number is 214/991-6803.

*Emerald Jones has been a technical writer and editor for over twenty years, specializing at the moment in high tech marketing and public relations for Tandon Computers. She is also the co-librarian for the UCLA PC UG.*



## A Typical Instruction Manual

Modesto PCUG

[Reprinted from pbug newsletter, September 1989]

Is this similar to your manual's information? Here is a portion of mine.

"The down button, when depressed, will remain down but will not stay up unless the up button has been pressed down. The up button, on the other hand, will not remain down and returns up when pressed down. Should the up button stick down, pressing the down button may possibly cause the up button to release from down and return up. If a situation exists in which both the up and down buttons are neither up nor down but the up button is halfway down and the down button is halfway up, then pressing the up button will cause both the up and down buttons to come up."



## Toshiba Screws

On the T1200 the battery backup for the extra RAM is only chargeable when the machine is turned on and plugged in. A full charge takes eight hours. So charge the machine once in a while, you whiner! What's the big deal?

The big deal is that the memory expansion card battery backup is good for only twenty-two hours when the machine is turned off. To charge it, you must leave the machine on for eight hours! The rest of the memory, the original memory that comes with the Toshiba is charged by leaving the computer off! At least the original memory is good for two days! Basically the unit needs to be turned on every day for eight hours and plugged in the wall. That's the only way the extra memory battery can charge! Not great for the traveler, eh? It basically means that I couldn't get from here to Europe without my memory giving out (except by Concorde). I'm just enchanted with this special awkward "feature"!

It's not a crime that this unit works in such an awkward way, just a shame. Why would Toshiba make such an odd board? A board that compromises the usability of the machine? Money, that's why! The add-in memory board works fine on the T1100 and the T3100, it just isn't so good with the T1200. This decision to use the memory board even if it doesn't work properly shows contempt and disregard for the user. It shows their willingness to slip by shoddy product!

I spoke to technical support at Toshiba and although sympathetic, they had no fix. I was able to eke out of one tech person that the memory add on board only sells to 2% of portable users and that's why Toshiba uses this one part for three machines. That's a great comfort after making the erroneous assumption that expensive add-in boards were designed to work properly with machines for which they were designed.

I've come up with a most unusual fix for the problem, a fix that not only expands the memory in the T1200 by 500KB but also frees up the one available add-in slot. If your Toshiba is under warranty, don't do this fix, because it voids the warranty. If on the other hand, you need more memory, would like it to work acceptably and don't want to take up your only slot, have I got a solution for you!

Computer Products Plus, an authorized repair station for Toshiba, will add 1/2 MB to your motherboard! It seems that Toshiba designed the motherboard for 1.5 megs but it's not utilized. Computer Products Plus will, for \$300, install the memory components and return it to you with a 90 day guarantee on the new components and workmanship. They guarantee turnaround of 48 hours on the job. To get more information, you can call Computer Products Plus and mention the upgrade program for the T1200.. Their toll free number is (800) 274-4277.

## And The Winner Is...

And The Winner Is...

It's that time of year again, when we all anticipate winning one of the great prizes given away at the December SLO Bytes meeting.

This years offerings ranged from a mouse cover (to keep your little friend warm at night) to high-end software packages.

Here is a list of the lucky winners and thier prize possessions.

Chuck Hansen	DeskLink
Eric DeHaan	LapLink
Dave Wilcox	5.25" Disk Case
Eric Schug	5.25" Disk Case
Bob Valpey	5.25" Disk Case
Harry Price	5.25" Disk Case
R. Ingalls	5.25" Disk Case
Marilyn Jenkins	3.5" Disk Case

M. Morrison	3.5" Disk Case
Norm Donaldson	Mouse Pad
Ray Miklas	Mouse Pad
Teri Sorgatz	Mouse Pad
Cleone VanWesten	Antistatic Touch Pad
Kenneth Stilts	Antistatic Touch Pad
Gary Simms	Antistatic Touch Pad
Bill Vance	Antistatic Touch Pad
M. Marvier	Disk Drive Cleaner
Art Day	Disk Drive Cleaner
Nancy Watts	Power Strip
Walter Rheingans	Power Strip
Earl Gustafson	Power Strip
Valiante	Super Vac
Steve Kapa	Zeamon Software
Bill Rech	Mouse Cover
W.O. Avery	SpellCode Spellchecker
Goeff Brennemann	Data Shuttle
Bob Bronson	The Computer Networking Book
Ed Reiten	ViewLink

Joan Staton	ViewLink
Bruce Smith	Print Shop
Lach McDonald	Top Priority
Will Osibin	PC Write 3.02 With Manual
John Rohde	Wordstar 5.5
Newsham	PreScript
Jack Prince	Umbrella
Bill Henson	10 5.25" Disks
Micheal Buckman	SLO Bytes Membership
Bernice Meador	Swiftax (Los Cerro Computers)
Carl Wallace	Rapid Tax

Congratulations to all of the winners. The rest of us will just have to wait until next year.





## DOS 4.0

bytes each. With DOS 4.0 we now have "variable cluster size".

When a fixed disk is between 32MB and 128MB the cluster size is four sectors per cluster. As the size of the fixed disk increases so does the cluster size up to a maximum of 128 sectors per cluster.

Here is why:

- 1 sector = 512 bytes
- FFFFH = 64K (65536) clusters possible in 16 bit FAT
- 4 sectors per cluster = 2048 bytes per cluster
- $2048 * 65536 = 134217728$  bytes (128MB)

or

- 128 sectors per cluster = 65536 bytes per cluster
- $65536 * 65536 = 4294967296$  (4096MB)

As the size of the disk increases the cluster size must increase since the 16 bit FAT entries are constant.

The important thing to remember is that if you have very large files on a very large disk you will realize the advantage of having one large "C" drive. But, if you have several small files you should partition your very large drive into several 32MB drives.

Here is why:

Suppose you had a 130MB fixed disk.

- The cluster size would be eight sectors per cluster.  $8 * 512 = 4096$  bytes (4K)
- The smallest unit DOS can allocate on the disk is a cluster.
- A file of 4000000 bytes would use most of the space allotted.
- A file of 1096 bytes would waste 3000 bytes of disk space.
- The same file on a 32MB disk would waste only 952 bytes.

Now let's discuss these 32 bit entries we've heard about for accessing the fixed disk.

These entries come from the DOS 4.0 Absolute Disk Read and Disk Write Services (Interrupt 25H and 26H). DOS views the disk as logical sectors from 0 to a maximum of FFFFFFFFH (4294967296). By the way, that means DOS 4.0 has a maximum fixed disk size of (512 bytes per sector \* 4294967296) 2199023255552 bytes (2GB). WOW!

When a program requests a sector it gives DOS 4.0 a logical sector number 32 bits long. DOS 4.0 converts the number to give the program the sector it requested.

It is curious to note that DOS 4.0 has the capacity to access much larger disks than the current implementation of 128 sectors per cluster maximum.

I hope this clears up some of the questions about the way DOS 4.0 accesses the fixed disk.

## What's New

were developing a resource list of "experts" for various software and hardware products. Bob also mention setting up special interest groups that would meet during the new users meeting. These SIGs would be for the more experienced user who would be able to contribute to the group.

A request has gone out for members to demonstrate some of the programs they use. One program that has been requested by several people is Microsoft Works. If you use this software, perhaps you can demonstrate it at the main meeting. The members in attendance were asked for suggestions for future demonstrations. The responses included computers as applied to HAM radio as well as a demonstration of full page scanners.

The feature of the main meeting was a demonstration of Desklink and Laplink. French Morgan of the Cal Poly Biology Department set up two computers in an effort to demonstrate these connectivity software products. As a side bar, French also demonstrated a screen-saver program called PYRO.

Desklink allows two computers to share resources (i.e., hard drives, floppies, printers, etc.) The software has to be running under both systems in order to transfer information. The program resides in the background waiting to be called up when needed. With Desklink you can manipulate files on a remote computer just as if the files were in the host system's harddrive. Desklink uses the serial ports to transfer information.

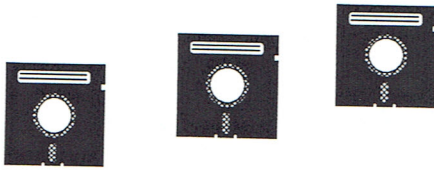
Laplink is similar to Desklink. It has an advantage in that it allows you to use

the parallel port to connect the computers. This provides a transfer rate of about three megabytes per minute. The cable supplied with the software has three terminals on both ends. This provides the versatility to use either mode. Laplink is specifically designed to transfer large blocks of data and directories from a laptop computer to a desktop.

If one were to walk in on French's demonstration at 4:30pm, one would have to assume that the presentation was hypnotic. The room was packed to a standing room only crowd.

Don't miss out on next month's important meeting. A representative from Softview will demonstrate MacIntax software. (They assure us this is PC compatible software).





## SLO Bytes Library

Check out some of the exciting additions to our library this month:

**#018 PRINTP - PrintPartner 1.0** - an excellent PrintMaster clone and shareware to boot! Can convert PrintMaster graphic files for use in this program. On this disk find other PrintMaster programs previously added.

**#068W Windows 3.0 programs:** **AFORCE** - arcade game, shoot down the enemy before they get you! **WINPOK** - play poker under Windows. **MAG111**, **SCREP12**, & **VI10** are all screen blankers with varying degrees of worth. **HUNTER19** - a file locator program.

**#071 WELD** - If you're a welder or thinking of becoming one, checkout this tutorial (includes graphics). **ALMANAC** - this program will give you hours of enjoyment and trivia.

**#073 FLAGS604** - see the flags of the world and hear the national anthems of many of the countries. **NUT** - the Nutritionist is a very comprehensive nutrition program covering just about any food imaginable.

**#084 BANANOID** - VGA game

**#090 MNDLBRT** - Here's a Mandelbrot program with Julian generator. I would suggest a fast 286 or 386 with EGA for the graphics unless you have time to spare.

**#095 PTOMB-V3** (Update from #024) - A Nintendo-like program with great animation and good story line. To this disk I am adding the following NEW programs: **JOUSTVGA** - just as it says... become a knight in shining

armor (VGA), **MPOKER** - play your opponent over the modem, **JKPOOL** - 3 dimensional pool game.

### UPDATES:

**#082LIST75E**  
**#084GRAFWK46** (previously on #018)  
**#196 BURNIN43**  
**#368 PC2PC144**  
**#381 SCANV71, CLEANP71, FSHLD14, VCPY67, VSHLD71, NETSCN71**

### DEMO's

**#082 Links** (Access Software)  
**#174 Brainstorm** (Mustang Software)  
**#175 FPU Show** (Specialty Software Development)  
**#176 Avagio** (Unison World)  
**#177 Optune** (Gazelle System)  
**#178 Monarch** (Personics)  
**#179 Secret of Monkey Island** (LucasArts)  
**#180 MathType** (Design Science)  
**#181 Automenu** (Magee)  
**#182 Stock!** (Money Magazine)  
**#183 Telemagic**



### New Members

Welcome to the following individuals who joined SLO Bytes this past month. We hope we can be of service to you and that you can help others by sharing your computer knowledge and experience with us.

Richard Bjorge	528-1248
Robert Bronson	937-6980
Jim Cocoran	489-6988
Craig Corwin	481-7586
David Eisen	528-0443
John Enos	543-5260
Ed Glembotski	543-7375
Bob Gold	481-5072
Chuck Hansen	528-3608
Marilyn Jenkins	528-2050
Bob Putney	543-0549
Joan Staton	528-1792
Elizabeth Warren	528-5317
Loren Webster	528-0672

## Calendar

**January 6th** Softview will show MacInTax For Windows. Here's an appropriate program so close to tax time. Hope to see you there.  
 ###

**Correction:** Under SLO Bytes Library in the November, 1990 issue of Hard Copy, disks #157 dbms/Copy and #173 Keynotes are disks being added to our DEMO library, NOT our regular library.  
 ###

## 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

Sony 3.5" 720K  
 Unformatted Floppy Disks  
 90 Cents Each

New Library Disks  
 90 Cents Each

All Disks fully guaranteed against defects.



## 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 \$18 per year. Newsletter only is \$10 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.

**Reprinting of this Newsletter:** Articles from this newsletter may be reprinted by other user groups if credit is given to both the author and newsletter from which it was taken. Reproduction of articles with a specific © Copyright notice is prohibited without prior permission from the original author.

**Advertising:** Commercial advertisers, request ad packet from Bob Ward. Members may advertise personal computer equipment or software for free. Submit your ad to Bob Ward.

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.

## 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.

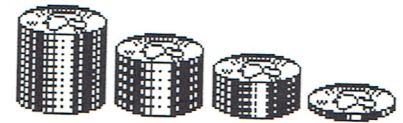
**SLO BYTES BULLETIN BOARD**

(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 December, 1990

Beginning Balance:	+1401.58
Expenses:	
Newsletter 11/19/90	-102.96
MEI Micro (disks)	-361.10
National Computer	
Accessories (gifts)	-104.74
Stationary supplies	- 27.71
UPS Bulk Permit	- 60.00
APCUG dues	- 25.00
	=====
	-681.51
Deposit 12/03/90	+655.62
	=====
	+655.62
Balance 12/10/90	+1375.69

## DISCOUNTS

<b>Star Computers</b> 855 Morro Bay Blvd. Morro Bay 772-7827	5%	Any software in stock.
	10%	Paper, ribbons, cables, and other supplies.
<b>Computer Logic</b> 973 Foothill Blvd. #4 San Luis Obispo 544-8347	10%	Off list - all computers, software, computer peripherals, and products. Contact Bruce, Paul or Dave for discount.
<b>WITCO Computers</b> 3563 Sueldo, Bld. B San Luis Obsipo 549-0811	10%	Off complete systems, peripherals, supplies but not including software.
	5%	Off computers alone.



### Ziff-Davis User Group Magazine Discounts

PC-Magazine - \$24.97  
PC-Computing - \$14.97  
Have your mailing label handy for renewals  
Call 1-800-777-2547 and ask for your user group discount

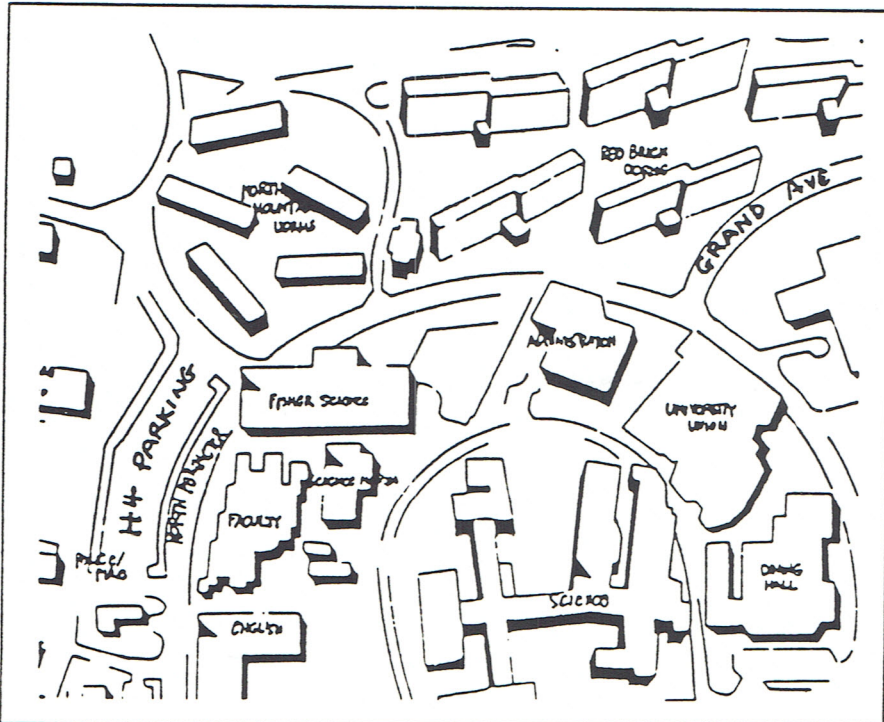


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### SLO BYTES PC USER'S GROUP

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**Hwy 1 - Highland Ave.** - Enter campus via Highland Ave. Proceed under the railroad bridge and bear to the right at the fork in the road. Drive past the Library which should be on your right. Continue on North Perimeter road through 2 stop signs. Drive past the Fire Station and Foundations Offices to your left. Turn left as you approach the top of the hill into the H-4 Faculty/Staff parking lot. Enter Fisher Science and walk to the opposite end of the building. Refer to the map for meeting locations

**Grand Ave** - Enter campus via Grand Avenue. Proceed until the street dead-ends on campus. Turn right. Continue past the Administration building, and Fisher Science located to your left. The first parking lot on your right is H-4. Park anywhere in that lot. Enter Fisher Science and walk to the opposite end of the building. Refer to the map for meeting locations.