





# The Hard Disk Shuffle

By Andrew Armour  
Tokyo PC Newsletter

Reprinted in the Valley Computer Club  
Newsletter, February 1990

When purchasing a new computer, it is wise to have the dealer install the hard disk prior to delivery, so all you have to do is flick the switch and get to work. This is the safe, stress-free way to live with a hard disk. Periodic maintenance-scanning for marginal clusters, backing up, and occasionally running defragmentation software is, of course, necessary, but it is also relatively painless. However, anything beyond mere "tweaking" - particularly anything involving the installation, formatting and/or partitioning of a hard disk - is not for the faint of heart. The documentation may be pellucid, the diagrams beautiful and informative, but beware. Dander lurks.

Since it is common practice to purchase a desktop computer with a single hard drive already installed, the first experience many users have of the nitty-gritty of installation comes when a second hard disk is bought, perhaps from a mail-order firm. Since the computer is already set up where you want it, the natural choice for the novice is to attempt the installation him/herself. As the documentation should make clear, the process consists of a number of logical steps. The following examples are for installing a second hard disk in an AT-type computer, but the basic principles apply also to other cases.

## Nobody is Perfect

Write down the "bad track" or "hard error" data printed on a label stuck to the upper side of the drive (indicating so-called media defects or flaws). Check that this data agrees with the factory test printout that accom-

panies the drive. Each bad track is indicated by two figures: cylinder number and head number. This is nothing to be alarmed about. Few hard drives emerge from the factory without a pimple or two. It is just important to know where they are, so they can be marked as bad and thus made unavailable for storing data.

## Open Up, Buddy

Remove the cover of your computer. Usually this means releasing some screws on the back and pulling the cover toward the front. You will now see the power supply, the disk drives, the expansion boards, and the motherboard below them. If the original disk is half-height there should be room left for a second half-height drive, preferably of the same type. This is not because of compatibility problems between the drives themselves, but rather a matter of whether the drive suits the controller. For instance, if the controller is of the MFM type and the hard disk is capable of RLL encoding, you would be wasting one-third of the available storage space on the new unit. Alternatively, if the controller is RLL and the new unit is only certified to work as an MFM drive, you would actually gain storage space, but you would also be in imminent danger of losing data. Apart from these considerations, there is the common-sense argument: if you are happy with the product, stick with it.

## Let Me Be Your Number Two

After removing the new drive from its plastic garb - and it is wise not to do this until you are ready to go through with the entire operation - there are probably some physical preparations required. On the back of the drive are two edge connectors - one for a 20-pin narrow cable and one for a 34-pin wide cable - and a DC power connection socket. A section in the manual entitled "Drive Select," or something similar, should have drawings and an explanation of how to set the jumpers or DIP switches.

The following explanation assumes that the new hard disk is to be installed as your second drive. To determine the correct drive select setting, you first have to check whether your controller uses a twisted or normal cable. If some wires in the wide dual-drive controller cable are twisted (see the explanation below), the drive select jumper should be in the "drive 2" position for both drives (this may be called "1" if drive numbering starts at 0 or "2" if numbering starts at 1). This means that you will probably also have to adjust the setting on the hard disk already installed in your machine. If your hard disk ribbon cable does not have any twisted wires, you should leave the jumper in the first drive as it is and adjust the jumper for the second drive to the "drive 2" position.

## Move Over

### Arnold Schwarzenegger

Another consideration is the "terminator" found on most hard disks. This is a resistor pack which often looks like a small IC. Again, it is important to know whether your controller cable is twisted or not. If yes, leave the terminator in place on the first hard disk and remove it from the second (your new) disk. If the cable is not twisted, remove the terminator from the first drive and leave it in place on the second drive. A hard disk setup will seem to operate normally if the terminator packs are not installed or removed correctly, but the probability for errors increases in the transfer of data between the controller and the drive.

## Sittin' On top of the Bay

The second drive is now ready to be physically installed. This means inserting it into the empty half-height drive bay. If the bay is designed for sliding drives in and out, you must attach mounting rails to the frame of the new drive. The drive is then slid

*Continued Page 3*



## Hard Disk Shuffle

into place and held there by one or more clamping screws. Hard disk mounting bays and the corresponding screw holes on the drives are fairly standard, so it you can wield a screwdriver, this part of the installation process should pose no insurmountable problems.

### A Story With a Twist

Next comes the cabling. You will notice that the first drive is connected to the computer by three cables. One of these is easily identifiable as a DC power cable that leads straight from the power supply to a socket. There should be another similar cable and connector coming from the power supply which you can use for your new drive. The connector is keyed, so that it will enter the socket only with the correct orientation.

The other two are flat (ribbon) cables that link the two edge connectors on the rear of the drive to the controller board. A color strip along one edge or a triangle printed on the connector indicates the position of pin 1. Similar cables may lead from the board to the floppy disk drive(s). You should see at least one unoccupied set of 20 pins on the controller board: this is for the new drive, and a new cable must be used to link the two. The other (34-pin) cable, however, must be shared between the two hard drives. If the current cable is a single-drive type without a spare connector, it must be replaced with a dual-drive cable. A dual-drive cable has connectors at either end and one in the middle. This cable can be either twisted (five of the 34 wires in the cable are twisted in the last section) or the connector in the middle and the first hard disk to the connector at the end of the cable. This may seem confusing, but it is due to the fact that the reversed wires in the second section make your first hard disk (which now also had the drive select jumper in the "drive two" position) react as drive one. If your controller uses a non-twisted cable, either connector can go on either drive.

Assuming now that both hard disk drives are connected up properly, and the clamping screws are in place, the cover can be replaced and you are ready to power up and begin the "software" part of the installation process.

### Formatting in Style

If all goes well, the machine should boot normally (from the first hard disk or from a DOS floppy disk). You then insert the floppy disk with the disk installation software. Such software is often supplied when you buy a hard disk, especially if it is a high-capacity drive. Two good programs are Disk Manager from Ontrack Computer Systems and SpeedStor from Storage Dimensions. With these, most of the process will be automated. You will have to indicate to the program what type of hard disks you have. This information will be used to update the CMOS memory and only then will the computer actually be aware of the new drive. You can update the CMOS manually with a SETUP-type operation, but to do this you must know what code number is correct for your drive. Of course, if you have chosen to buy the same model from the same manufacturer, you need only to copy the code number already listed in CMOS for your first drive. Note that this code number is not the same as the manufacturer's model number; for example, a Seagate ST277R might be coded as 40.

When prompted, enter the cylinder and head numbers for the known bad tracks on the disk. During formatting, the installation program will also scan the surface of the disk for any defects, but to be on the safe side, you may want to enter the data from your list manually. If the disk is big (i.e., over 32 Mb), the program will probably suggest a few possibilities for partitioning - dividing the hard disk into two or more logical drives (E: and F:, for example). Some software also allows you to make the whole drive into one partition, even if it exceeds DOS's 32 Mb limit.

*Continued Page 4*

## What's New

Burton, sales representative from WordStar International, time to set up for his presentation of WordStar 5.5.

Andy, although suffering from a combination of jet lag and lack of sleep from a wedding party in Arizona the night before (not his wedding), gave an interesting presentation of some of WordStars finer points. With version 5.5 comes drop down menus, true WYSIWYG, and of course don't forget the control "K" features that made WordStar both famous and frustrating. This version also comes with the companion programs Inset, MailList, PC-Outline, ProFinder, Star Exchange, and TelMerge. Andy finished his presentation by giving away two copies of WordStar 5.5 and two WordStar sweat shirts. Congratulations to John Rhode and Virginia Sawyer who each took home a new copy of WordStar. John Bautts and Gilbert Hoffman now have a sweat shirt they can wear to the next WordStar formal in Hollywood California. And the officers..... well we're still pushing for that trip to Hawaii.

Next month will prove both interesting and educational. John Martinelli, President of International Machine Control Systems (IMCS) will demonstrate their product - the MousePen. It's just as it sounds. It works like a mouse while having the dexterity of a pen. There's nothing like it on the market and it's manufactured just to the north of us in Paso Robles. Come see the MousePen in action.

###





## Hard Disk Shuffle

Continued from page 3

The program may also ask for an interleave factor, perhaps with a default value of something like 3. You may have heard that a 1:1 interleave speeds up a hard disk, but this is only true with certain drive/controller combinations. In fact, you may will be slowing down the disk by choosing 1. Trial and error is the only way to find the optimum value, unless you use a program such as SpinRite from Gibson Research which tests actual data throughput, suggests an interleave and even lets you change it without disturbing data on your disk.

At this point, the installation software begins its job and performs the three main steps involved in preparing a hard disk: 1. Low-level or primary format (initializing) 2. Partitioning (into one or more logical drives) 3. High-level format (to prepare the disk to store data and optionally install the operating system)

### To Boot or Not To Boot

If you have opted to reformat your first hard disk also (of course, only after making one or preferably two backups of all data on the disk), the program will stop and ask you to insert a system disk, so the DOS system software can be transferred to the bootable partition on the disk (usually C:). For the second disk, this is not necessary, since it will be treated as a non-bootable. Note that the same version of DOS must be used throughout the formatting process. The alternative to using installation software (which is the easy and highly recommended approach) is to wield those venerable DOS tools, namely DEBUG for the low-level format, FDISK for the partitioning, and FORMAT for the high-level format.

If all has gone well, the second drive can now be used for storing files and running programs (but not booting). Before resuming normal operations, however, it is a good idea to run a diagnostic program such as CORE

International's CORE Disk Performance Test, to see how well your hard disk drives now perform. You can compare the results to those obtained before installing the second disk.

Besides increasing storage capacity, a second hard disk drive is also a form of insurance: if your first drive fails and has to be repaired, you can reinstall your second disk in place of the first, making it bootable. This is when you will be glad that you made frequent backups.

###

## Bits n' Bytes

- After the last meeting there was a message from Family Publications on my answering machine. They gave me a phone number to call so I could check on the validity of their company. The number they gave me was a FAX number... Yep, no voice. The order forms will be available at the next meeting. Use at your own risk. The remainder will be discarded after the meeting.
- The programs on library disks 1-50 have been in our library since the beginning of the club. They are presently being evaluated to their usefulness. After the next meeting we will drop many of the programs on these disks. If you think there is something of value on the first 50 disks then please copy them by the next meeting.
- We are in the middle of purchasing another machine for the BBS. It will be a 286/12 monochrome system with 2 megabytes of RAM running Wilcat on two phone lines. The second line will be for members only. Our total disk storage space will be 120 megs (and we thought 40 would do in the beginning!). Expect this to come together by the middle of April.



Cont....

Looking inside, I found a whole handful of those candies, and some were blocking the carriage from going all the way to the left. Something in the safety logic of the printer made the head move to center position and stop when it was prevented from getting all the way to the left stop sensor.

After this discovery, even a small brick to the head would have made me look inside the computer. There was a smaller handful of candy inside it, on the mother board and in the disk drive. One candy was blocking the full movement of the disk drive head carriage, thus causing an inability to move to or read all of the tracks on the disk. Removing all the rat dropping-sized candy cured the problem with no apparent permanent damage.

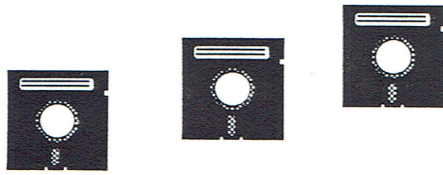
I set a mouse trap on the floor and by the next morning, had caught the mouse responsible for storing all that food inside my computer. I replaced the missing slot covers on the back on the computer to keep the next mouse out, and put a cover on my printer. So far there haven't been any more problems.

###

- I have created a new database for articles found in our newsletter since the beginning of the club in 1984. The database was created in PC-File+ (what else is there) and lists articles by name, author, and date. It will be in the small disk box along with the file locator disks, etc. It will be updated each month.

###





## SLO Bytes Library

We are adding 3 disks to the library this month. Here's what we have to offer:

#373 QEDIT21 - A fast and easy editor.  
 CNSL20 - Track your stocks, bonds, and mutual funds with this one.  
 DBANNER - make banners for parties, birthdays, etc.

#374 ASIC - A fast BASIC language compiler. AZP5010 - ZIP all those files automatically. FIND211C - Find any file on any hard disk. This one is FAST!  
 SAVELOAD - A simple backup and restore program. MODEM22 - Thoroughly tests your modem. PC-MANAGE - compresses and decompresses seldom used programs on your hard disk. SCRL - provides smooth scrolling of text on your EGA & VGA monitors. VOLTLBL - makes labels for 3.5" disks.

#375 PRESENTS - make your own slide show. Fancy dissolves, etc.  
 PCCAI - another presentation program for demos, tutorials, etc.

### Updates -

Several programs will be updated before the next meeting. Check the sheet in front of the disk boxes for updates.

### DEMOS -

FracTools by Bourbaki, Inc.  
 Auto-Mite by Pendulum Group, Inc.

###

## New Members

Welcome to the following individuals who joined our club this past month.

Wayne Adair	528-4830
Philip Borden	772-1356
Ken Friend	466-2760
Scott Hendricks	481-3456
John Lund	528-7080
Lach MacDonald	473-1947
Bill Senna	481-5066

Just a friendly reminder to the following people. Your membership expires this month. (March, 1990)

Ben Bertram  
 James Bigelow  
 Victor & Tammy Chen  
 John Dalbey  
 Rance Danell  
 Pat Duncan  
 Jim Godfrey  
 J.W. Kleinhammer  
 Barry Mayer  
 David K. Smith

The following individuals have expired memberships as of February, 1990. If you wish to renew your membership, please send a check to Teri Sorgatz or Bob Ward before the next meeting or you will be dropped from our rolls.

Ralph Allison  
 C.K. Currey  
 Jason Haines  
 Melvin Johnson  
 Roger Lachance  
 Steven LaMarine  
 James M. Lasley  
 Kitty Levee  
 Effie & G.D. McDermott  
 Ernest B. Miller  
 Joye Naley  
 Samuel Nunes  
 Phil Persons  
 Salley Ross  
 Allyn Schultz  
 Doris Searey  
 Nils Sedwick  
 Dick Thorpe  
 George Tway  
 W. Carl Wallace  
 Marvin Whalls

## Our Club Library....

It can be a madhouse

Copying disks in the library room can be chaotic at times. We have a limited number of computers with an unlimited number of members wishing to use them. Please use the following guidelines to make your copying session easier on yourself and those around you:

- Limit your copying to 10 disks at any one sitting. Then relinquish your seat to the next person in line. (Sure, you can get in another line or remain at the computer if no one else is waiting.)
- Plan in advance. Use your File Locator Disk at home to determine the disks you want to copy.
- If you must find a file using the File Locator Disk, ask the library monitor (SAM).
- Copy disks during slack times. This is usually at noon when the library opens, and either during or after the general meeting. Unfortunately we must be packed up and moved out of the library room by 5pm so another group can use the facilities. I will schedule the room for a longer time (6pm) starting this summer.
- After you copy a disk, immediately place it back in the disk box. Notice the numerical dividers and return them to their proper order. If they aren't put back promptly and in correct order, the next person must take extra time to track them down... and that could be you.
- Before you leave, check your disks and make sure no library disks end up going home with you.
- If you experience problems with either the library disks (read errors), or the computer, report it to the library monitor. He will assist you.
- Demo disks are to be copied and the originals returned to the disk boxes.

Continued Page 8



## UltraVision A Way to Pep Up Your Old EGA Monitor

By Bob Ward  
SLO Bytes PCUG

Having difficulty with that drab EGA monitor? You were told about all those vivid colors when you bought the monitor but somehow it just doesn't look as colorful as advertised. Try UltraVision to bring those colors to life. No, this isn't meant to be an plug for laundry whiteners. To the contrary, UltraVision does just what is advertised; enhances both color and readability of EGA monitors.

I was a bit skeptical in looking at their advertising. I have a NEC Multisync monitor and corresponding NEC GB-1 EGA board. I just assumed I was seeing all the colors as NEC wanted me to see them. UltraVision, through their special ANSI system driver and UltraVision RAM resident program, UV, have added versatility to both my monitor and many programs I use with my computer.

### Installation

UltraVision comes on two disks; the program disk and the drivers disk. Installation is straight forward but one must pay close attention to details. Even though UltraVision is completely compatible with my system I was apprehensive in seeing the warning about turning your system off immediately if your screen goes black to avoid damage to

your monitor or board. Two tables may be used to cross-reference your EGA or VGA card with the expected text modes. For instance, the GB-1 board with my multisync EGA monitor will produce matrices from the standard 80X25 to 132X44. Several screens are presented during installation so your screen can be centered for the different modes. Things really start looking up when the Palette Test is run. This utility is used to adjust your brightness and contrast for maximum color.

### ANSI-UV.SYS Driver

Personics has created their own ANSI.SYS driver to complement UltraVision. The first thing I noticed after substituting their ANSI driver in my CONFIG.SYS file was the increased speed of screen writes. I tested this program on an IBM- AT 8 Mhz computer. I would put it up against any 16 MHz machine after reconfiguring with ANSI-UV.SYS. This driver does more than just add speed. It also recognizes EGA and VGA extended screen dimensions so your screen doesn't become distorted in certain text modes.

### Color Adjustment

A separate program called UVCOLORS is run to set the default configuration for both foreground and background colors. Any of the sixteen color blocks may be edited by changing the percent of red, green, and blue then saved to the UV configuration file.

There are several preset color sets to choose from or you can create your own. I chose one with a yellow foreground and black background. Others can be chosen for specific applications. You also have the option of locking the color palette into Text Only so your wordprocessor will use UltraVision's colors

## Local BBS's

Here is a list of Bulletin Boards found in our local area. There may be other boards in the area but they were not on-line at this time. You will also find this list on disk in our library.

Bulletin Boards as of 03/1990

SLO Bytes PC Users Group	528-3753 (2400/8/N/1)
Nicken Graphics Depiction	528-0194 (2400/8/N/1)
Computer Logic	544-5863 (2400/8/N/1)
The Message Center	489-1966 (2400/8/N/1)
S.L.U.G.	528-4958 (2400/8/N/1)
Minihost of SLO	549-0961 (2400/8/N/1)
CyberSpace	544-4955 (2400/8/N/1)
CyberSpace	544-8865 (2400/8/N/1)
Pentode	549-9104 (2400/8/N/1)
Dark Side of the Moon	544-5419 (2400/8/N/1)
Central Coast Amiga Network	543-9386 (2400/8/N/1)
Sword of Shannara	544-0666 (2400/8/N/1)
The S.T. Sorcery	489-2026 (1200/8/N/1)
I/O Connection	481-9603 (2400/8/N/1)

* LOIS	473-1414 (1200/8/N/1)
* Back Door	937-6205 (2400/8/N/1)
* LOIS	929-3330 (1200/8/N/1)
* CBBS	995-0130 (1200/8/N/1)
* Success	238-7359 (2400/8/N/1)
* Pro Board	239-4292 (2400/8/N/1)
* MicroQuest	466-9141 (2400/8/N/1)
* Easy Rider	461-0162 (2400/8/N/1)
* Castle Chaos	239-2571 (2400/8/N/1)

\* Toll Call from S.L.O.

Continued Page 7



## UltraVision

while any graphics program will use its own colors. Palette locking in All Modes locks the colors into both text and graphics based applications. Except for programs using 256 color VGA modes, all other applications, including graphics, will use UltraVision's color palette.

### Font Selection

UltraVision has a wide variety of fonts from which to choose. The font of your choice becomes resident when UltraVision is loaded and remains in effect while running all applications. I thought it was bizarre to see my wordprocessor pop-up in Old English. Qmodem just didn't look the same in Script. Finally after testing all the fonts (there's 20 to choose from) I settled on one called Windows. It's a bold, simple font, which when run with UltraVision's color palette and ANSI driver, sharpens my monitor text to look like VGA. That's really what UltraVision is all about. As they advertise, it makes an EGA screen look like VGA... and this it does. In fact, with an EGA multisync monitor certain text modes will give 480 EGA scan lines, the same as low resolution VGA.

### Applications

UltraVision comes with drivers for most of the popular applications. By using these your screen will support different size type in full screen mode. By this I mean you can get more material on the screen by choosing a text mode that is smaller than the standard 80 columns by 25 lines. With a multisync monitor graphics of a higher resolution may also be shown in some programs.

UltraVision is said to run under all programs in with the GEM interface and support 640 X 480 graphics resolution when using an multisync EGA monitor. I was excited at the possibility of running Ventura under UltraVision with the increased graphics resolution. To my disappointment I could never get Ventura 2.0 to run under UltraVision. I changed the Ventura setup to the appropriate monitor type and

stripped all possible drivers and TSR's from my CONFIG.SYS and AUTOEXEC.BAT files to accommodate the extra 18.5K UltraVision uses. Even after all this it appeared that I never had enough memory to run both UltraVision and Ventura together.

The strange thing is that I had more base memory available for Ventura when UltraVision was installed (after stripping extra files) than when I ran my normal Ventura configuration (without stripping extra TSR's). In some instances Ventura would load a chapter but immediately flash a warning on the screen stating that memory was marginal and to proceed at my own risk. In clicking on the "OK" to continue, Ventura would try to load the chapter but eventually fail. This was frustrating since the opening Ventura screen was in the new and improved mode provided by UltraVision. I felt like a kid staring into a store window looking at piles of candy. I could see it but I couldn't get to it.

I called Personics's technical support and stated the difficulties I was experiencing with Ventura. The person was not aware of a problem with Ventura but took all my information and promised to talk with someone more familiar with Ventura Publisher. He did return my call but his only solutions were things I had already tried. I believe this problem would be non-existent if I was running Ventura in expanded memory, something my computer will not support without an additional board.

### The Next Version?

There are two things I wish Personics would consider in their next update. This includes a way of loading a font and/or palette file from the DOS command line. Attaching this line to a batch file that already calls up a specific application would make UltraVision more versatile. Presently palette colors are stored in a configuration file and must be changed through UltraVision.

Secondly, after testing UltraVision for two days I had the colors in the original preset palette so mixed up that I had to reload the program from disk to get my original color sets back. A

"return to default settings" would be helpful here.

### Conclusion

Except for frustrations with Ventura Publisher (It's not the first time!) I found UltraVision to be all that is advertised. It is an excellent enhancement for EGA monitors and displays their full color potential. The program is simple to use if the user pays close attention to details. I would suggest reading the the manuals from cover to cover before trying UltraVision.

UltraVision 2.0  
 Personics  
 63 Great Road,  
 Maynard, MA 01754  
 (800)445-3311  
 Price: \$119.95

###

April 1990			
Sun	Mon	Tues	Wed
1 Meeting	2	3	4
8	9	10	11
15	16	17	18

### Calendar

- April 1st John Martinelli, President from ICSN will demonstrate their new "Mouse Pen".
- May 6th Open
- June 3rd Betty Skov, public relations manager from Logitech will demonstrate Finesse.

###



## Madhouse...

Those demos on 1.2 MEG floppys may be checked out until the next meeting through the library monitor. (We do not keep a backup of the demo disks)

The following disks are missing from our library: No's 119,184, and 204. Check to make sure you haven't mistakenly taken them home. Also missing are demo disks 2, 95, and 124.

Thanks for your cooperation....

###

## WordStar SIG News for WordStar Users

By French Morgan

When making changes to Wordstar default settings, WINSTALL is normally used to start the modification programs. This starts at a "MAIN" menu. WSCHANGE also allows for changes in default settings, but does not allow for other changes in areas that Wordstar accesses (printers, related programs, etc.). When changes are made to Wordstar default edit settings the changes are written directly to the Wordstar program. Configuration files are not used in the "Professional" releases of Wordstar (Wordstar 4.x and 5.x).

Wordstar 2000 releases (now up to 3.5) allow the same changes, but changes are also saved to configuration files.

*NOTE:* Starting April 21, 1990 Wordstar is dropping their 800 (toll free) technical and cutting back support to weekdays only. Although technical support will be free of charge for current versions, you'll have to spend your "dime". And speaking of dimes... the telephone number is in Midwest

(Bloomington, Indiana ... (812) 323-0112), so be prepared to call BEFORE 8am Monday and Tuesday, Thursday and Friday (Wednesday 8am is the earliest) to save money on telephone long distance charges. These are Pacific Coast Times (Mon,Tues,Thurs,Fri ... 7am-4pm, Wed ... 8am-4pm).

Wordstar is still a small company compared to Word Perfect and 800 technical support costs an arm and a leg. 800 support and the quality of support has been a key feature for some time. Sorry to see the end-user now has to pay to figure out problems.

If you have problems or solutions, bring them to the Wordstar Special Interest Group meeting. Meetings are the second Tuesday of each month, Cal Poly campus, Science North room 313, 6:30pm. If you have questions that can't wait, leave a message at 544-3691 for French Morgan. We'll try to create a list of Wordstar users who can help each other.

### BRIEF review:

Wordstar 2000 release 3.5

It is still Wordstar 2000, but has added the power of Wordstar's 5.5 Page Preview (an industry acclaimed power feature)!

###

## Central Coast dBASE User Group

*Excerpts from their last meeting.....*

The January meeting brought together many familiar faces. Not everyone knows of our meetings yet, but the word has been getting out.

We've tentatively planned various demos and speakers to start in May or June. From now 'til then we'll discuss general problems and share tips and tricks.

A diskette which had a small program to 'paint' the screen with 2000 asterisks was handed out for evaluation. The program was compiled with CLIPPER, QUICKSILVER, & FORCE. Both the ultimate file size (of the EXE file) and execution speed varied con-

siderably. Although the 'test' program is not appropriate for evaluating which compiler to purchase, it does offer a hint of possible offerings.

A brief discussion of compilers and what and when they might be used followed.

"Official" demos of competing compilers and other software will be scheduled for future meetings.

Our attention turned to filling out a questionnaire and discussing meeting times. Generally, 6:30pm or 7pm was suggested and "best" meeting times. We'll get together at 7pm next month and re-discuss.

While \$12 seemed more than reasonable for yearly membership, several offered to pay more to fund the user group. What the heck, maybe we'll be able to compete with the SLO BYTES IBM-PC User Group for funding the officers vacation to HAWAII! We'll do them one better and take the ENTIRE User Group!!! Of course, we'll send them postcards wishing that they were with us.

Back to reality ... for the next several months all newsletters will be complimentary. So if you know of anyone who would like a free newsletter, call French Morgan (phone number listed at the end of the newsletter).

Our meeting lasted a little over an hour. Hopefully future meetings will be about the same length and address specific problems, products, and helpful hints.

Public Domain and Shareware programs will be collected in a 'library' and available to dSLO dBUG User Group members. Hopefully we'll make the software available for the SLO BYTES User Group meetings and to the SLO BYTES User Group BBS for those who have modems.

If you have a favorite program you've written and would like to share it, call French Morgan or bring it to a meeting. Send all inquiries c/o French Morgan, Central Coast dBASE Users Group, P.O. Box 13109, San Luis Obispo, CA. 93406 or call (805) 544-3691.

###



## 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.

**Treasurer:** Teri Sorgatz, 832 S. 7th Street, Grover City, CA. 93433 Phone 489-2516

## 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.

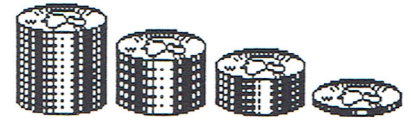
**SLO BYTES BULLETIN BOARD**

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

**PC Files & Message Section**

**SYSOP: George Campbell**

**All Welcome - 24 Hours**



## Treasurer's Report

Here's our expenses for the month of February, 1990

Beginning Balance	\$2143.67
Newsletter Xerox	\$95.30
Deposit 3/5/90	\$535.30
Balance	\$2583.97



## DISCOUNTS

<b>Paradise Computers</b> 3485 Sacramento, unit B San Luis Obispo 544-7127	5%	All computers, peripherals and software.
<b>Star Computers</b> 855 Morro Bay Blvd. Morro Bay 772-7827	10%	Ribbons, paper, disks & other expendable items.
<b>Computer Logic</b> 973 Foothill Blvd. #4 San Luis Obispo 544-8347	5%	Any software in stock.
<b>WITCO Computers</b> 3563 Sueldo, Bld. B San Luis Obsipo 549-0811	10%	Paper, ribbons, cables, and other supplies.
	10%	Off list - all computers, software, computer peripherals, and products. Contact Bruce, Paul or Dave for discount.
	5%	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