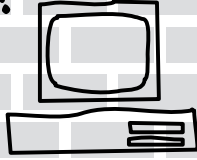


Slo Bytes
Rules!



HardCopy



BoB



HardCopy is a publication of the San Luis Obispo PC User Group and friends

Volume 9, Number 5

May, 1993

What's New

By Bob Ward—
SLO Bytes PCUG

Those of you who are library fans, you'll have to try the CD set up on one of the computers in the museum. Here's access to another 3,000+ disks of files. We were off to a shaky start last month as I hadn't jumpered the 1.44 floppy correctly so we kept getting disk errors when copying files to floppies. That problem has been remedied and we have a NEW version of CD disk on library computer. Much better graphical interface and easier to use.

A couple points to remember. Make sure you are using formatted disks and that when you copy a "disk" from the CD to a floppy that you include a subdirectory with the same number as the disk number. For instance, should you choose to copy disk #842 then when it asks where to copy the file, say A:\842 (if you are using 1.2 meg floppies) or B:\842 if you want to use the 1.44 disk drive. Unfortunately, even though the programs are zipped on the CD-ROM the menu program insists you unzipping the files to a floppy disk.

Moving right along, after our early meetings where George told and showed all about DOS 6.0, and Bob worked with the neophyte group, we took a short break before jumping into the main meeting. At our business meeting we discussed and presented articles of incorporation to be voted on by the membership. The vote was 125 to 3 to proceed with the incorporation. We will also be apply-

[Continued on page 7](#)

askSam

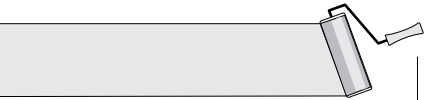
By DT Richmond—
SLO Bytes PCUG

The program name, **askSam**, is an acronym of "access stored knowledge via symbolic access method" this is how **askSam** works. What do they mean by "symbolic access method?" Lets look up symbolic in *Webster's New Collegiate Dictionary* and see what help it can be. I find it gives these definitions:

SYMBOLIC: 1: of, relating to, or constituting a symbol (no help) 2: a: using, employing, or exhibiting a symbol (perhaps) b: consisting of or proceeding by means of symbols (promising) 3: characterized by or terminating in symbols thinking (doesn't seem to apply) 4: characterized by symbolism a dance (again doesn't seem to apply).

So the definition: 2: b "consisting of or proceeding by means of sym-

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Club Calendar

✕ June 6

Claris is coming to town. They will show File Maker Pro 2.0 & Claris Works for Windows. Also check out the new CD ROM set-up in the museum!

✕ July 4

Who knows, but we will have some kind of "fireworks" around

✕ August 1

Great Plains Software will be showing their "high-end" accounting modules

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High Speed Modems

Author Unknown—

Indianapolis PC Users Group, March 1993

There are many questions about high speed modems, their capabilities, and the compatibility of modems from different manufacturers. The following text basically discusses US Robotics HST 9600 bps modems and the Hayes V-Series 9600 bps modems. There is a special section regarding v.32 and v.42 modems.

1. The old USR HST has a top transmission speed of 9600 bps. This is before taking into account any kind of MNP compression. Typical throughputs with the old HST ranged from 1150 cps on a compressed file with the modem-compression-disabled to 1900 cps on a regular text file with modem-compression-enabled.

The HST will transmit at 9600 bps only when connected to another HST but will connect at 300/1200/2400 baud to other standard modems.

2. The new USR HST (termed the 1440) is able to transmit data at 14400 bps (again, this is before taking into account MNP compression, etc.). Typical throughputs with the new HST will range from about 1500-1700 cps on a compressed file with modem compression-disabled to about 2300-2400 cps on a text file with modem-compression-enabled. This is assuming that you've opened your COM port at 38400 bps. The HST will transmit at 9600 bps only when connected to another HST but will connect at 300/12/00/2400 baud to other standard modems.

3. The Hayes V-Series 9600 modems are similar to the old USR HST described in #1 above. You will typically see throughputs as high as 1900 cps on text files but only about 960 cps on compressed files. The Hayes V-Series 9600 will transmit at 9600 bps only when connected to another Hayes V-Series 9600 modem but will connect at 300/1200/2400 baud to other standard modems.

4. Hayes is shipping its V-Series modems with ROM chips in them giving them v.42 compatibility. This means that the V-Series 9600 mo-

dem can now provide an error-corrected session when connected to any regular MNP modems at 2400 bps. This is because v.42 implements MNP levels 1 through 4 (which excludes MNP compression). You will typically see throughputs of about 260-280 cps on a 2400 bps line due to MNP's stripping of the start and stop bits.

5. The v.32 modems (such as those made by US Robotics and MultiTech) run at 9600 bps and will give you similar throughputs to those described in #1 above (i.e., v.32 will give you slower transmission speeds than will the new HSTs running at 14400 described in #2). However, the advantages of v.32 are that it provides you with better "interactive response times" (such as when typing) and that, because v.32 is a CCITT "standard" they will connect at 9600 bps to modems made by other manufacturers. By "other" I mean that you can connect US Robotics v.32s to MultiTech v.32s to another v.32. The v.32 standard appears to be one that will remain for some time to come—so purchasing a v.32 modem may be a better investment if you are concerned about future compatibility. However, v.32 still costs more than the proprietary standards such as the HST 9600 or the V-Series 9600.

6. The USR Dual Standard is both a v.32 and an HST modem. When it is in the "HST mode" everything said in #2 above (about the 14400 HST) is true. When it is in the "v.32 mode" then everything said in #5 (about v.32 modems) is true. In other words, in v.32 mode you will not get the full speed advantage of the Dual Standard for file transfers.

However, one big advantage to the Dual Standard is that it is compatible not only with the v.32 standard, but with all of the existing HST modems as well. This may or may not be an advantage for you depending on which modems you frequently dial into or which modems dial into you.

[Continued on page 7](#)

Library Notes

By Bob Ward—Librarian

Take note, here are the new files that will appear in our library this coming month:

#553 GARDEN10 — What a great time to have a new program that will help you plan your summer garden.

EARTH1 — navigate the earth by longitude and latitude.

#554 P&PMAKR1 — Pencil and paper activity maker.

NPBT12 — BTS Equalizer - Teachers, create questions and answers for your classroom.

#555 DCF41 — Disk Copy Fast v 4.1 - need to copy SEVERAL disk from one master, try this one. Even works with a 3 drive controller card.

WIZ27 — lost a file somewhere, find it with this FAST file finder program.

THEREF43 — Comprehensive reference list of hard disk and controllers. Need to find where to put that jumper, use this.

#556 HUGOIII — Jungle of Doom, part 1 of 2.

#557 HUGOIII — Jungle of Doom, part 2 of 2

Updates:

#384 - CSHOW843 updated to CSHOW860



Welcome to those of you who joined our club this past month.

Dale Burrious	237-2658
Greg Campbell	466-3959
Phil Jenne	5499-8648
Bob Nelson	927-0439
Susan Santomieri	
Dave Schell	461-5463
John Stephenson	466-4311
Pamela Ventresca	528-8122

The Frugal Hacker

By Bob Stephan—M-Bug PC Users Group, May, 1993

The term "hacker" originally meant anyone with a keen interest in learning about computer systems and using them in novel and clever ways. Many computer enthusiasts still call themselves hackers in this nonpejorative sense. (*Communications of the ACM*, March 1991, Vol. 34, No. 3, Page 25)

WHICH DOS?

As everyone has heard by now, MS-DOS 6.0 is out. Before installing it on your hard drive, be sure you have a complete, current backup of everything on the drive. Actually, this is good advice before installing any major program, so it should not come as a shock. However, there have been reports of major problems, especially when the disk compression feature was installed. In some cases it took a complete reformat of the hard drive to recover from the damage. This is not intended as a scare tactic, merely a reminder to practice safe computing at all times. Just be sure to read all 29 pages of the README file <g>!

Do you really need MS-DOS 6.0? If all you are looking for is disk compression and better memory management, why not get DR DOS 6.0 instead? It has been in use for over a year so is tried and true, and has features that MS has not even thought of yet. In some respects, MS-DOS is trying to catch up with the leader. Just evaluate the features to be sure you are getting what you need before you upgrade to any version.

Another way to get advanced features in DOS is to use the shareware command processor 4DOS. Since it is shareware, you can try it before you buy it to make sure it is what you want. With everything else that is available, I can't see anything in MS-DOS 6.0 to get too excited about.

WHICH CACHE?

I hope I don't step on anyone's toes here, but I noted with interest

the mention of SpeedCache+ twice in last month's newsletter. Speed-cache+ Version 4.03 was included in the Bernoulli product I purchased from IOMEGA that I wrote about two month's ago. I used that version of SpeedCache+ for about a month, and I agree that it is a very good disk cache program. However, I had some serious problems with it in relation to a floppy drive, so I think a caveat is in order.

I have a third floppy drive that comes up as my H: drive. Speed-Cache+ automatically started caching that drive along with my hard drives, but apparently it did not realize that it has removable media. I was extremely embarrassed when I received reports that the disks I was distributing my shareware programs on were corrupted. It turns out that SpeedCache was mixing cached data from previous diskettes whenever I was writing to that floppy drive. This made the disks unusable.

I attribute the problem to incomplete documentation along with the inexcusable failure to recognize that H: was a floppy drive. The Speed-Cache+ manual was provided as a disk file which I printed and read, but it made no mention about caching floppies. I still don't know whether there is a way to do it safely, or if it is a complete no-no. My written inquiry has so far gone unanswered.

FWIW, I can't see spending the money on a disk cache program anyway. Products like DR DOS, MS-DOS, Windows, Norton Utilities, PC Tools, and others come with perfectly adequate disk caching programs. HyperDisk is an excellent shareware product that might be better than any of them. Most of us would be hard-



pressed to detect any differences in speed between any of these. Maybe it is just my frugality talking, but unless you really need that last tiny iota boost of speed, save your money and use one of the free ones. Any disk cache is better than none for most purposes. I have since been using the SMARTDRV that comes with Windows 3.1 and find it works better for me. Your mileage may vary.

DEFINITIONS OF THE MONTH

Environment:

A source of information within DR DOS used by all applications, often called the global environment. It is where the PATH, PROMPT and SET variables are stored. (DR DOS 6.0 User Guide)

An area of memory which contains multiple entries in the form "NAME=value". Each entry is called an environment variable. (4DOS User Manual)

Environment Variable:

The name of a single entry in the environment. Environment variables are entered with the SET command, and used to associate the specified value with the specified name for any purpose desired by the user. Typically, their function is to set default switches for a program, specify a directory path where files can be found, and so on. (4DOS User Manual)

Environment information such as a drive, path, or filename, associated with a symbolic name that can be used by MS-DOS. You use the MS-DOS "set" command to define environment variables. (Microsoft Windows User's Guide)

Bob Stephan welcomes comments and questions that The Frugal Hacker can respond to. He can be reached on Internet (bob.stephan@nitelog.com), NITELOG (655-1096), CRICKET (373-3773), GENIE (MOBYDISK), Compu\$erve (72357,2276), Plodigy (FNGC05A), or snail mail at the MBUG-PC address.

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On The Fringe— Virus Wars

By John Wahl—Editor Twin Cities PC User Group

Where did the computer virus come from and where might it be going? The February 1993 issue of *Discover* provides a clue to the former. In the article "The Bulgarian Connection" an excerpt from the forthcoming book "Approaching Zero", authors Paul Mungo and Bryan Clough postulate that the majority of computer viruses originate in Bulgaria and for a very startling reason.

It seems that in the early 1980's Bulgaria decided to become a high-tech power to rival that of the West. It would supply computer hardware to the Eastern Bloc countries in exchange for cheap raw materials. Bulgaria had many well-educated electronics engineers and began making copies of IBM and Apple computers. These were badly made clones, very slow, and obsolete by the time they reached the end of the production line.

Ok, they had the hardware, what about the software? It had to be pirated because U.S. companies couldn't sell such high technology to communist countries. As a result, Bulgarian programmers became expert at cracking copy-protection schemes and experts with the intricacies of the IBM and Apple operating systems. They were becoming excellent "hackers" and developing all the skills needed to become expert virus writers.

A 1987 virus called Vienna had been published in a German book and was used as a model for the first known Bulgarian virus, created on No-

vember 10, 1988. This first virus worked only on .COM files, but within two days the author created version 2, able to infect both .COM and .EXE files.

Bulgarian virus authors began to feed off of each other's work and they created "Virus Exchange Bulletin Boards". A sample message:

```
"IF YOU WANT TO DOWNLOAD
VI RUSES ...JUST UPLOAD AT LEAST
1VI RUS WHI CH WE DON'T
ALREADY HAVE... YOU WI LL BE
GI VEN ACCESST O THE VI RUS
AREA...(WI TH) MANY LI VE
VI RUSES, DOCUMENTED
DI SASSEMBL IES, VI RUS
DESCR IPTIONS, AND ORI GI NAL
VI RUS SOURCE COPI ES!"
```

Viruses progressed as a response to challenging articles stating that, for example, it would be "difficult" to create a virus that could infect all .EXE files, including the longer ones. Such a virus was created within a month of the article. The virus authors began to compete with each other, writing code into their programs that would seek out and destroy each other's viruses. They began writing programs that would detect and evade antivirus software. "stealth" viruses began to emerge that could add themselves to program code without apparently increasing the length of the file. Such a virus would simply deduct its own length from the length of the infected file whenever it was scanned.

Virus writers began to create pseudonyms for themselves and develop

celebrity. The "Dark Avenger" may be the best known, creating some of the most destructive viruses. In May 1991 the Dark Avenger allegedly created a virus known as "The Mutating Engine", a virus that is reputed to be able to disguise itself "in 4 billion different ways". Such a virus, if it exists, would be extremely difficult to detect. It contains no constant characteristic, such as a text string of "666" or "Eddie Lives!" like many well-known viruses.

According to the article, The Mutating Engine is actually a routine that other writers can build into their own viruses to help them evade detection. A number of viruses have allegedly been discovered that contain The Mutating Engine, with names like Coffee Shop, Cryptlab, Fear, Groove, Little and Pogue.

Apparently Russia has recently gotten into the act. A new Russian virus called "LoveChild" infects a computer and starts a countdown from 5,000. when it reaches zero, it wipes out the hard disk.

Where are we going? In my view, even minor speculation on this subject borders on the irresponsible - why give these lunatics any ideas?

But I will make two, probably unoriginal observations. One, we may soon see a day when a virtual "war" is going on, mostly undetected, in our PC's as one virus fights another, each programmed to detect and wipe the other's code. Two, we could see a day in a future world of bacterial storage devices (such as those described in my December 1992 article), where a computer virus becomes a real virus. Let's hope we never see that day. ☺

CorelDRAW! DooDad Uncovered

By Richard L. Whitney

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I'm not sure if I'm the first to find this DooDad or not and I'm going to be embarrassed if I'm not, but here it is.

Start up CorelDRAW! 3.0 in the usual manner, open the Help dialogue box and then click on About CorelDRAW! Now, press the SHIFT and CTRL keys simultaneously while

you double-click on the Corel Balloon icon in the upper left corner of the dialogue box. The box will immediately expand and empty its contents except for the Corel Balloon which now sits at the bottom of the box.

Now comes the cute part! The balloon will just sit there until you click the left button on your mouse causing the



hot air balloon's propane jets to "fire". The balloon will slowly begin to rise with a banner in tow listing the names of the individuals on the CorelDRAW! 3.0 development team. (If you don't keep the mouse button depressed, or press it periodically, the balloon begins to descend toward the bottom of the dialogue box.)

I'm sure the other icon in the About dialogue box also has some secret but I haven't figured it out. ☺

Awaken from the Deep Sleep

Reprinted from the Spokane, Washington IBM PC Users Group Newsletter March, 1993 Editor: Sherwood W. Anderson

Back in 1986, Rip Winkle decided there were three things he really, really wanted in life. One was to buy a new car. The second was to marry his girlfriend, Shree Heather Villanueva, who had promised him her undying love. The last was to get himself a really good computer system.

Rip was just a young guy starting out, and the burger-flipping position he had secured during the longest sustained period of economic expansion and job creation in American history provided only a modest income. But he lived simply, was a hard worker and a steady saver. Thus by January 1987, Rip had tucked away a tad more than \$6,000. One of the few luxuries he allowed himself, besides dating Shree Heather, was a subscription to PC magazine. He eagerly scanned every issue of PC, checking out systems and prices in anticipation of the day he could order one for himself.

Unfortunately, just hours after slipping an engagement ring on Shree's finger and making his big choice from the March 10, 1987 issue of PC, and before he could place his order, Rip slipped on a grease spot. He hit his head and — Did I mention his middle name is Van? — lapsed into a coma. His long sleep lasted six years.

On recovering, Rip devoted a few days to catching up. He was annoyed to learn a fellow worker, one Clyde Knott, had been told to clean up the grease spot but had failed to do so. But he was relieved to learn the burger corporation had acknowledged its liability and had covered all his medical expenses.

Rip was amazed at how car prices had increased and how everything connected with car ownership and operation had become more costly and less satisfying. Things like

taxes, fees, insurance, emissions tests and traffic congestion.

When he looked up Shree Heather, he learned she was now Shree Heather Villanueva-Knott, was expecting her second child and was all excited about Clyde's promotion to manager by the burger chain.

He was almost afraid to see what had happened on the computer front. But he decided to find out anyway, and so picked up the March 16, 1993 issue of PC. He also dragged out the yellowed paper on which he'd recorded his system choice back in '87. What he saw dropped his jaw, bulged his eyes and blew his mind.

Back in '87, he noted, CompuAdd offered one of the best deals in a low-end system. It was a 286 with an 8 MHz, one-wait-state CPU, 512K bytes of RAM and a 1.2 megabyte floppy drive. CompuAdd would throw in a 42 Mb hard disk for \$595, a monochrome monitor for \$109, a nongraphical, monochrome video card for \$59, and an "I/O" card with two parallel and one serial ports for \$79. Total price for the whole shebang was \$1,837.

Checking out the '93 issue for an all-out lowball system, he first spotted a 386/33 unit offered by PC Brand. It had 2 Mb of RAM, a seemingly humungous 105 Mb hard drive, a 1.44 Mb floppy drive, a super VGA monitor (.39 dot pitch), SVGA video board and serial and parallel ports. And PC Brand was throwing in a mouse, Windows 3.1 and MS DOS — all for \$995!

If he could get so much for half what he was prepared to spend six years earlier, he wondered, what could he come up with for the \$1,900 or so he originally planned to spend? He flipped along until he came to the Zeos ad. His frame shook and his palms grew sweaty as he scanned the slick, foldout spread. His gaze fixed upon the following system:

486 SX/25, 4Mb RAM, 130 Mb IDE hard drive with 32K cache, 1.2 and 1.44 Mb floppy drives, super VGA monitor (.28 dot pitch), 1 Mb VESA local bus SVGA video card, serial and parallel ports, upgradeable flash BIOS and two fans. Plus, Zeos would provide a mouse, Windows,

MS DOS 5, his choice of Lotus 123, Ami Pro or Freelance Graphics and a copy of Lotus Organizer. Complete tariff was \$1,895 (\$58 more than for that now pathetic-looking 286/8 he had been so taken with).

Rip decided to think things over for a few days. During this period of reflection, he decided to: (1) get his Ford Falcon fixed up and skip the new car; (2) ask Sue Smith, who worked the drive-up window, for a date; and (3) buy himself a drop-dead powerful, killer PC system.

To make a long story short, the Falcon's running fine, Sue's crazy about him, and from the March 16, 1993 issue of PC, he ordered a major-major PC system from Insight. While waiting for UPS to show up, he dragged out the March 10, 1987 issue of PC to see what the same, roughly \$6,000, outlay would've gotten him back then. (The comparison can be seen in the accompanying table.)

The moral in all this, Rip V. Winkel decided, is that not everything grows more disappointing as its price goes up; that good things come to those who wait (even if the wait is involuntary); and that grease spots should really be gotten up right away.

Ⓜ

askSAM—

Continued from page 1

bols" seems to fit. So **askSam** uses symbols to guide it in accessing information.

Now what does **askSam** say about itself? This passage quoted from the **askSam** Reference Manual's Overview in Chapter One tells the **askSam** story.

"**askSam** is intended to help you organize your information like other information managers. Unlike all other information managers, **askSam** allows you to enter your information in free form style. You enter data your way, rather than following a prescribed formula, create your own fields, or simply enter the data in any format.

Continued on page 8

TrueType Fonts

By Dana Trout—Goleta Desktop Publishing UG

I've had a lot of people ask me how Windows 3.1, which has TrueType built-in, will work with PostScript printers, ATM, HP Laserjets, etc. First let's look at some of the distinctions between PostScript Type 1 fonts and TrueType fonts. Both are scalable outline fonts, but use different ways of dealing with hinting information and font metrics. The Type 1 fonts contain hinting information, but the intelligence of how to make use of the information is in the rasterizer (typically the printer, unless you are using a software rasterizer, like UltraScript).

TrueType fonts contain all font metric information in the font file (things like the character widths, side bearings, bounding boxes, and PostScript names). Also, the hints are contained as low-level instructions instead of plaid data or pixel-fitting. This has several effects, but the one we're most concerned with right now is that TrueType font hinting information cannot be understood by a PostScript rasterizer.

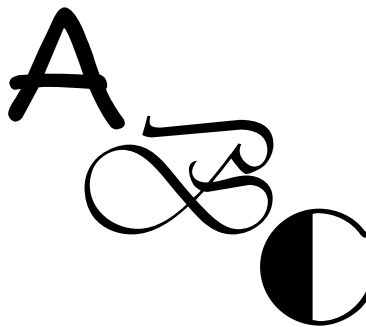
Microsoft has handled the problem of multiple type technologies on several levels. First, they built a general printer-driver, and only small subsidiary drivers are needed for specific printers. This is a substantial departure from earlier versions of Windows, and means that there is a certain degree of conformance of output capabilities among the printers. This general printer driver supports TrueType and is used for over 200 printers, including PCL and PCL-compatible printer, like the HP Laserjet Series II, Canon LBP-8, etc. PCL5 and PostScript printers use separate printer drivers which also include TrueType support.

The font selection menu in Windows 3.1 identifies fonts not only by name, but by kind as well. The user has the capability of selection fonts which are contained in the printer, or in the printer's native format but need to be downloaded, or in TrueType

(which is the native format for only Truetype printers).

If a printer-resident font is used Windows 3.1 will display on the screen the True Type font that most closely matches the selected font, and the document will be printed with the selected printer-resident font.

If TrueType font is selected, both the screen display and the printer will use the TrueType font. How this is done depends on the kind of printer. For bitmap printers which have no font memory, the page is transmitted as a set of raster bands, just as is done in Windows 3.0 for PCL printers like the HP LJ II, only the characters used will be scaled, hinted, converted to bitmaps, then downloaded to the printer. This saves time and printer font memory compared to the



more common technique of scaling the whole font (even characters that are not used in the document) and downloading it. This technique is used for even the original HPLaserjet, which does not normally accept downloaded bitmap fonts. The HP Laserjet, LJ Plus, LJ 500+, LJ Series II, IIP, IID, LJ2000, and entire LaserJet II family are supported this way.

PostScript printers are handled quite differently. The scaling and hint application of TrueType fonts is always performed in the computer, because the PostScript rasterizer does not know how to handle TrueType hinting instructions. For small sizes (about 15 points for a 300 dpi printer, correspondingly smaller for higher resolution printers), the windows 3.1 printer driver scales the font, applies the hints, and converts it into a Type 3 bitmap, which is then downloaded to the printer. At larger point sizes the font is converted from TrueType to a

hinted and scaled Type 1 font, which is then downloaded to the printer. The reason for the difference in handling is due the fact that in PostScript devices, the hinting algorithms (as contrasted to information) is built into the rasterizer, and different rasterizers use different algorithms. To maintain the desired appearance the changes applied by the rasterizer hinting algorithm have to be small, otherwise the results would look quite different depending on the rasterizer used. The hinting algorithms are not used at all on a bitmapped Type 3 font, which explains why Type 3 fonts are sent at small point sizes. The reason to send a Type 1 at larger sizes is that a Type 1 font is considered more compact than a large point size Type 3 bitmapped font, and at larger point sizes the PostScript hinting algorithm has little effect on appearance.

Windows 3.1 lets you specify that only fully rendered Type 3 bitmaps be sent to the printer, which assures that the PostScript hinting algorithm will never modify the appearance of the characters. The penalty, of course, is the amount of time it takes to send large bitmaps to the printer. Another alternative Windows 3.1 gives you is the ability to map a TrueType font to a PostScript font. This has the advantage of avoiding downloading altogether, and since the TrueType fonts provided with Windows 3.1 have the same metrics as the resident fonts in PostScript printers, the screen layouts (line breaks, page breaks, etc.) will match the printed page. The only penalty is that there are some small differences in character shapes between the two, so if you really want the exact appearance of the True type font, you won't get it.

I've noticed many of the TrueType fonts I have obtained in the past came from DTC (Digital Typeface Corporation), which just don't quite make it as high-quality fonts. Generally Adobe and Bitstream fonts are better. If you have a printer with true Adobe or Bitstream fonts, my advice is to use them instead of DTC fonts, be they Type 1, TrueType, or whatever. ☺

HIGH SPEED MODEMS— Continued from page 2

7. Hayes is working on a v.32 modem that is similar to the v.32 description given in #5 above. I cannot comment further on this modem due to lack of details.

v.32, v.32bis, v.42,
v.42bis... It's enough
to drive you crazy!

With so many v. (pronounced vee dot) standards you can get confused just thinking about them and even more confused if you try to pronounce them all in the same sentence. I'm going to attempt to explain the standards below in hopes of clearing some of the air surrounding these topics.

What is the v.32 standard?

The v.32 standard is a "modulation" standard. I like to compare it to the AM and FM standards used in radio broadcasting. Not only are they at different frequencies but they use different modulation standards for 300, 12w00, and 2400 baud. The v.32 standard is a full duplex (data going both ways simultaneously at the rated speed) standard for 4800 and 9600 bps connections.

What about v.32bis?

The "bis" means simply that it is an enhanced v.32 standard. Modems incorporating v.32bis are capable of transmitting data not only at the 4800 and 9600 bps standards, but also at the higher 12000 and 14400 bps standards. Again, like slower v.32 speeds, the data can move in both directions simultaneously at the rated speed.

So what is v.42 all about?

The v.42 standard is an error correction standard. It is a method by which data is packetized and sent between modems to ensure that the data that arrives at the receiving end is the same as what was transmitted. MNP is another error correction standard. In fact, the v.42 standard includes MNP as an "alternate" method in case a modem is not v.42 compliant... in other words, v.42 modems

can connect with MNP modems and achieve a "reliable" connection.

Then v.42 is an enhanced v.42?

Yes, the v.42bis standard adds a high level of data compression to the error correcting facilities built into the v.42 standard. For example, an ASCII text file that is 100k in length could, while being transmitted, be compressed down to just 25K making a 4:1 reduction in size. On the receiving side the transmitted data is expanded out to the original 100k size. In effect, the transfer rate of the modem can be double, triple or even quadruple the rated speed of the connection by compressing the data before transmitting it and uncompressing it on the other end.

It should be noted that this type of data compression, while very useful for downloading ASCII files, bulletins, messages, etc., it is useless when downloading ZIP or ARC files which are already compressed.

What about v.32 and v.42 together?

A commonly asked question is will v.32 modems will work with v.42... and the answer is yes. If you asked the questions, "can I transmit English over an FM radio frequency and have the listeners understand?" the answer would be the same and for virtually the same reasons. (Here we're likening the v.42 method of packetizing data to English and the v.32 method of modulation to FM radio transmissions.)

The v.42 and v.32 standards are for two completely different (but complementary) areas of communication. In fact, you'll most likely discover that every v.32 modem you find has v.42, MNP, or some other kind of error correction control built into it. So, a modem, featuring both v.32bis (with its higher transmission speeds) and v.42bis (with its greater compression ability), can be very fast when transmitting and receiving data.

Fore example, a v.32 modem's raw throughput at 9600 bps would deliver 960 cps. Adding v.42 brings you up to 1150 bps. If the data is compressible, then with the compression capability of v.42bis, you could see

even greater speeds... 2 to 4 times greater depending on the data being compressed.

A v.32bis modem's raw throughput of 14400 bps delivers 1440 cps. Adding v.42 brings you to 1700 cps. With data compression it is possible to achieve 2 to 4 times that speed compression it is possible to achieve 2 to 4 times that speed depending on the compressibility of the data being transferred.

Ⓜ

WHAT'S NEW—

Continued from page 1

ing for a 501C3 non-profit exemption and looking for liability. So, SLO Bytes, as SLOooooow as we might seem have decided to start doing things more business like. I found a couple insurance companies who have quoted about \$500 per year for the liability insurance. This shouldn't trigger an increase in dues as I hope some of the insurance costs will be deferred by the reduction in postage costs as a non-profit organization. We will keep you posted.

Richard Katz, rep for Intuit gave us a great demonstration on Quicken for DOS, Windows and Quickbooks. All three are quite easy to use and can be valuable for accurate book-keeping. Our thanks to Richard for the time he spent with us and we hope he will return when Intuit comes out with new versions. We also thank him for satisfying our sweet tooth with the candy he most generously distributed.

This month we are supposed to have File Maker Pro demonstrated. Although the company has committed their district reps have not contacted to set up the meeting. Theyllllllllll be sorry. In any event, we, most likely, will see a demonstrations of File Maker Pro, and if now you know that George and I won't let you down. We will have a backup something. Perhaps a demo of all the neat software in our CD-ROM library for a start.

Ⓜ

“**askSam** has a powerful search and retrieval engine. You can search within a file, within a proximity of another word, or even globally, through your **askSam** files. When you complete the search you can make changes, additions, or deletions using **askSam**'s full screen editor.

“Complex and often-used requests may be stored as programs, allowing easy recall for execution. Programs are easy to set up, and are recalled by user defined names. Programs can consist of a number of requests and may be performed referring to a number of files.

“**askSam**'s unique hypertext facility allows you to perform searches, execute programs, and change files. With **askSam**'s hypertext, you may search on a highlighted word, or create a menu listing files or often used programs.

“**askSam**'s uses are limitless and no manual (or review) could describe them all. **askSam** gives you the tools to work with, and you create your own application. Use menus if you like, define fields if you like - it's up to you.”

Now let's take a look at what I have done with **askSam**. As an excuse for having a computer, or because I have a computer, I have been writing a collection of short stories I call “My Stable of Memories.” These stories cover the years my wife and I spent racing horses here and in Australia.

To put **askSam** to work I first created a directory called BOOK. I then copied all the material I have written for MSOM thus far, (246,834 bytes) into that directory from wp51 in ASCII test. I entered the **askSam** program then called up the BOOK*.*.ASK file. Working in the main menu, in the FREE search form, I pressed the query key. On the command line I could enter the name of a horse or a race track where we had raced. Any word or any combination of words could have been entered for a search. Almost instantly the RECORD containing the asked for information would appear on the screen

with the request highlighted. (A RECORD is **askSam**'s FIELD of reference in FREE mode. Records can be up to 20 lines of 80 characters, 1600 bytes or one screen.)

askSam could find RECORDS that would contain reference to two or more search objects.

It was fun going through my writing using **askSam**. Had I wished to I could have edited the material as it appeared on the screen. **askSam** is really a powerful program! Now how could I put this power to work for me?

I believe it would be possible to use **askSam** to create a template that **askSam** could apply to the horses entered in a horse race. From that template **askSam** would then select the horse with the most qualities needed to win that race.

To accomplish this I would first use **askSam** to develop the search template. I would do this by having **askSam** process the form of the winning horses from past races. This would determine which factors were most prevalent in the form of those winning horses. Then by applying this template **askSam** would read the form of each horse in a race and **askSam** would come up with the entry that had the most winning characteristics. Maybe even the likely winner. I use “likely winner” as even the power of **askSam** could not take into account the human factor or racing luck. This is an interesting problem I could use to challenge **askSam**'s talents. The basic problem I have would be to gather the information in ASCII text and to get it into the computer environment. However I would like to try one day.

The material that accompanied **askSam** lists a few instances where the power and versatility of **askSam** proved it's usefulness: When the Iran-Contra hearing investigators entered all the information they had gathered into **askSam** they found that relationships existed between key figures in the money laundering operations they hadn't noticed and probably never would have found manually.

An investigative reporter put his notes about a series of helicopter crashes into **askSam** and found the

one fact that linked all of the crashes. He saved the taxpayers millions of dollars and won a Pulitzer Prize.

An aircraft manufacture had a big problem. A jet fighter mechanic had to have access to over 1,000 different manuals, containing over a million pages of text and thousands of drawings. The logistics of making all of these manuals immediately available to every mechanic were formidable, if not impossible. So they put all of this documentation, plus the graphics, into **askSam** and gave each mechanic a computer with access to the network version of **askSam**. Now mechanics don't have to spend precious time looking for manuals, then searching indexes and tables of contents for parts reference. A simple **askSam** request retrieves all of the necessary information, from any combination of manuals. Fantastic!

Conclusion: I will not pretend that I am qualified to judge the merits of **askSam** with it's depth and strength. I have read and studied the manuals, I have used the program as stated. From what I have read and the little experiments I have performed I can attest **askSam** is a versital, powerful and useful tool to organize and manage information.

A quote from 1992 Byte Readers' Choice Award: “If you need to perform sophisticated sorting and data manipulation, **askSam** is the best of the free-text databases. It effectively applies database functionality to textual data and handles structured or unstructured data with ease.”

A quote from a review published in Byte: “Perhaps because of its flexibility or perhaps because of its uniqueness, **askSam** is somewhat difficult to learn. However, if you are willing to invest some time and energy, **askSam** can give you control of your textual data.”

A Windows version is now on the market. What more can I say?

*DT Richmond can be reached at
DT'S Computer Corner 805-528-6290*

askSam Systems
P.O. Box 1428 119 S. Washington
Street, Perry, Florida 32347
Suggested Retail Price \$395 J

Club Information

HARD COPY 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 word-processor including tabs, indents, extra spaces, or highlighting. We prefer articles on disk but will accept hard-copies if necessary.

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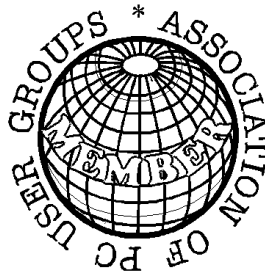
Meeting Times

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 1:00 - 2:00 pm.

General Information SIG - F.H. 286

New computer user SIG - FH 292

Our Public Domain Library is in Fisher Science Museum. Hours are 12 pm to 5 pm.



PAGE LAYOUT COMPLIMENTS OF TERI A SORGATZ COMPUTING ASSISTANCE

Floppy Disks 4-Sale at the meeting

DSDD 360K Formatted Floppy Disks with labels, tabs, and sleeves	55¢ Each
DSDD 360K Formatted Label Over Floppy Disks	45¢ Each
Generic High Density Formatted Floppy Disks (5.25" X 1.2 MEG)	70¢ Each
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New Library Disks	90¢ Each

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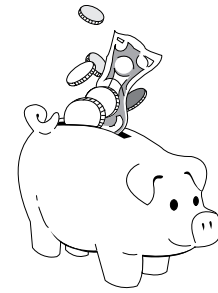
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Vice President Sam Powers

Treasurer Marilyn Jenkins

Secretary Bob Ward

Editor Bob Ward



Treasurer's Report

SLO Bytes PCUG Expenditures— May 1993

Beginning Balance:	\$2696.90
Expenses:	
Newsletter	- 125.64
486 Computer	-1305.68
DOS 6.0	- 60.68
I/O 3 4 Drive Controller Card	- 53.71
Z-Nix Mouse	- 40.00
Incorporation Papers	- 150.00
CD-Caddies	- 107.25
Deposit — 05/07/93:	503.10
Balance — 05/15/93:	<u>\$1357.04</u>

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PC Files (9,000+)

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