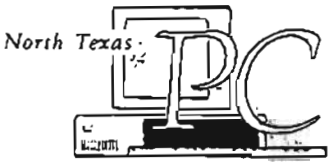
Price $2.00



NEWS

North Texas PC Users Group

8.1

January 1989

North Texas PC NEWS

(STARMAIL ADDRESS 51563)

Published monthly by members of North Texas Personal Computer Users Group for their use. Members each receive a free subscription; for others, price of the NEWS is $2 per copy. Members are requested to notify the Membership Director in writing of address changes. Send all editorial correspondence to: North Texas PC NEWS, 5105 Swiss Ave. Dallas, TX 75214

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Deadline:

All advertising and other material for publication in North Texas PC NEWS must be received by the NEWS staff by the 15th of the month. See copy deadline below.

Articles:

More articles are needed for publication in North Texas PC NEWS. Specific instructions for submission of articles are given elsewhere in this issue of the newsletter.

Circulation:

North Texas PC NEWS circulation is 1473.

Member distribution is 1209; remaining copies are distributed to PC user groups around the country, and to advertisers, prospective members and others with common interests.

This issue of North Texas PC NEWS was composed using Xerox Ventura Publisher. Corel HEADLINE was used for some headings. Repro was printed on a NEC LC-890 Laser Printer. Typefaces include: Times, Palatino, Helvetica, and ITC Avante Garde.

DEADLINE
Copy deadline for February NT PC NEWS:
Sunday, January 15th.

Meeting Dates:

January Meeting - 2nd Sat. (14th)
February Meeting - 3rd Sat. (18th)
March Meeting - 2nd Sat (11th)

January is Election Month!

Absentee ballots are acceptable– mail yours to the Secretary before the meeting.

Better still, bring it to the meeting yourself.

VOTE

January meeting.

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January 14 — John Ogle & Timothy Carmichael

9:00 AM - 10:00 AM To be announced.

10 - 11 AM and 12 N - 1 PM - TWO Presentations

Auditorium

*** Philippe Kahn, founder of Borland ***

PC Computing In The 90s And Beyond

Philippe Khan, the charismatic founder of Borland, will present his views of the future of software for personal computers in the 90s and the 21st century as the power of PCs and supercomputers come closer. Judging by his presentation at COMDEX, this should be a fascinating talk. A MUST-SEE EVENT!

Prez Sez...

Many Thanks

Thank you Reagan Andrews for your year as president elect and your year as president. I know that it took a lot of your personal time. Enjoy your postion as leader of the new Microsoft Word SIG.

INFOMART

Stuart Yarus, president of the Computer Council of Dallas, called last week to say that we have a contract for 1989 with INFOMART. One benefit of the new contract is that we will now know our meeting dates 90 days ahead of time instead of 60 days. That has always been a problem when we have wanted to attract some of the more popular speakers like Philippe Kahn of Borland.

Membership Cards

We will have NTPCUG membership cards at the February or March meeting. We are planning to print the membership number in bar code at the bottom of each card. If we can do that, then we can use a laptop computer to scan the cards at the main meeting. When we have drawings for products at our main meetings, we can use a random number generator to select from the people actually present. No more half hour reading of names.

We've also been approached by several local vendors that would like to give discounts to user group members but want a membership card for identification.

Elections

January is the month for elections. If you can't attend the main meeting, please mail your ballots to the user group post office box.

Jim Hoisington

ON COMPLEXITY

No. 23 in a Series

Jim Hoisington

The reliability of new software products is an order of magnitude worse than the reliability of new hardware products. For every story about a defective piece of hardware that I hear these days, I can think of at least 10 and maybe 100 about defective software stories.

Until I helped produce a commercial piece of software, I always thought that the vendors put untested software into the market because they didn't think testing was important. But, I learned that there is another factor in testing software that gets by the testing that most vendors do.

I supervised a data processing center in a hospital for a while. A major portion of my personnel were employed in data entry or "keypunching" as we called it in those days. To make sure the data was correctly entered onto the computer cards, my employees entered it twice. The first time, the machine punched the holes in the card, the second time, it punched an additional hole, only if the data entered agreed with the data in the cards.

What I learned very quickly was that if the same person verified the data that punched it originally, most of the original esrors went undetected. We tend to make the same mistakes twice.

The problem that a software vendor has is finding testers that have not been trained to think like the people that designed and wrote the software. Those kind of people will immediately discover all sorts of flaws that the designers never could find. I remember reading the "bug" reports on Professional Basic and wondering, "Why would anyone want to do that?"

It turned out that there were a lot of legitimate, rational, things that people wanted to do with the software that I had never imagined, much less tested for. The problem a software vendor has is finding a new group of people like this for each new release and getting them to actually try to use the product.

A lot of people are always volunteering to test products, but when they encounter the first error, they shelve the product, and wait for the next release. So, how does the software vendor find and motivate the testers? If you hire them, they start to become friends with the developers and the first thing you know, they are thinking like the developers.

Several software vendors have asked me about the possibility of user our group doing some of the testing. It would be possible only if the SIG leader for that particular product had the time and interest to motivate the testers and verify the problems. I'd like to see the reporting of the testing somehow built into the program so that it would be unbiased by human interpretation. But, we're probably dealing more with the unexpected problem than with the expected so it would be difficult to automate.

Our group may be asked to participate in a testing program on a trial basis this year. That means that you may be asked by a SIG leader to participate. Please give it some thought.

Jim

FAX & Scanner Mania Strikes COMDEX/Fall 88 --

"Commodity" 286, 386 PC's Dominate Giant Show

by Reagan Andrews

COMDEX/Fall 88 was glitz, glitter, tinsel and tired feet on a giant scale.

Show officials estimated that 110,000 people had wandered through the eight (8) show sights by 5:00 p.m., Friday, November 18 in Las Vegas. That's roughly 20,000 more than COMDEX/Fall 87's estimated 90,000 attenders.

How big was COMDEX/Fall 88? The *Program and Exhibits Guide*, published by the The Interface Group, Inc., who stage this huge computer exposition, was 599 pages long. Fifteen (15) pages of the Guide were devoted to floor plans of the eight show sites alone.

Major display site was the Las Vegas Convention Center, with its North, South, East and West Halls. It's flanked by the Las Vegas Hilton Hotel which also had two large show areas. Other COMDEX/Fall 88 show sites were located at Bally's Las Vegas, Caesars Palace, Riviera Hotel, Sahara Hotel and the Cashman Field Center.

Transportation between sites was, as last year, a major problem for visitors. Cab drivers stated that every cab that would run at all was pressed into service for COMDEX. Luckily, we stayed at a marvelous, modern, wonderful hotel/casino – the Sahara – which was sort of centrally located and allowed relatively easy walking between the various COMDEX/Fall 88 show sites.

(Please see Mouse sidebar for a more accurate depiction of the splendors of the Las Vegas Sahara.)

Looking at COMDEX/Fall 88 requires three views. First of these, and most important, is the reception given PC Users Groups by the major vendors. Second viewpoint is the "news" and themes apparent at COMDEX/Fall 88. Last, and most apparent after three days walking the show sites, was the lack of real news, but there were some interesting developments in various aspects of the state of the PC.

Let's take the second point first.

No Breakthroughs at COMDEX/Fall 88

1988 was the "Year of the LAN – and UNIX – and OS/2 – and DOS – and Optical Scanners – and FAX boards – and, and, and, no central theme that caught anybody's attention.

Excitement was almost totally absent from this year's COMDEX. Perhaps "Boredom" might have been the major theme this year.

Last year, participants were afraid that the stock market crash in late October would cast a pall over COMDEX. It didn't. But high DRAM prices apparently did have an effect this year. (More about this later.)

Operating Systems -- No Glitter -- Except for Pick

The three major operating systems, OS/2, UNIX (in its many, many variants) and DOS were about equally represented at COMDEX/Fall 88. IBM and Microsoft were showing OS/2 1.1 with Presentation Manager, all of which looked like WINDOWS, and only IBM was running anything under (and very, very carefully at that) DOS 4.0X.

Lots of CAD/CAM was running under UNIX (or XENIX, etc.) without much ado. Just about as much (probably more) was running under WINDOWS, with some that appeared to be showing via DRI's GEM. All was impressive, as it should be, and little appeared significantly improved over 1987's COMDEX.

IBM had a 10-minute show running OS/2 (really saw MS Excel) paralleled with PC-DOS 4.0X running what looked like MS Works. IBM had one of the more polished displays at COMDEX/Fall 88, and, as last year, was incredibly boring as a result.

UNIX was everywhere. Almost as ubiquitous as LAN hardware and applications. But, UNIX wasn't a star -- only a drone worker being used to show off hardware or applications. SCO tried to generate some excitement for UNIX in their exhibit room as did AT&T, but to no avail. UNIX/XENIX shares some of OS/2's negative publicity that ran as an undercurrent throughout COMDEX/Fall 88 -- need for massive, i.e., 3 - 4 MBytes, system DRAM before it would really run well.

Some pundits were already muttering about need for a minimum of 5 - 6 MBytes of system memory to show-off either OS.

Pick Pavilion Sparkles and is FUN

Pick Pavilion was an exception to the generally mundane Comdex. People here were enthusiastic about Pick and their products. This was a fun area as a result although a little difficult to find.

Pick is a somewhat little-known OS, mostly because it's founder, Dick Pick, hasn't pushed too much for ►

publicity. A true multi-user operating system originally developed for minicomputers, Pick has been ported to 8088, 80286 and 80386 PC's in 4 - 20-user versions and is very capable when dealing with string-oriented data.

Revelation, a heavy-duty database system available for the PC environment, is based on Pick and a favorite of Jim Hoisington, NTPCUG President-Elect/President (depending on when you read this.)

Pick Systems and Prime Computers (magnificent red bags – more about this later also) along with 26 other Pick vendors made the exhibit area an exciting place at COMDEX.

FAX here, FAX there, Fax, FAX, everywhere

Everybody seemed to have some FAX board or FAX-related product to show at COMDEX/Fall 88. You couldn't walk more than 10 yards without some FAX vendor hawking something. Do this many people really want FAX on their PC's? Best of the show seemed to be from Intel as part of their new communications coprocessor boards.

(Editorial comment:) Why hobble a PC with this? Dedicated FAX machines are faster, cheaper and appear to produce much higher quality than the boards on display. Some of the adapters were embarrassing due to their slow, awkward approach to this over-hyped business technology.

Optical Scanners Do Not OCR's Make

If that's cryptic, I'm sorry. There were actually more scanners than FAX adapters, I think. Bulk of these were actually pretty good at digitizing analog material (continuous tone pictures and illustrations) especially the Intel systems. People displaying these devices apparently were unaware of "Moire" effects that result from attempting to digitize a previously digitized image.

Results were similar to those seen when attempts to make a half-tone plate from a previously half-tone screened photo from a newspaper or magazine. Some of these looked pretty "arty" but were none-the-less unacceptable for publication purposes.

Real problem here came from those vendors who implied that their product worked as OCR's (optical character readers) when coupled with $500 software packages. Some of the most amusing moments at COMDEX/Fall 88 came from attempted demonstrations with hand-held scanners working from page ►

COMDEX/Fall 88 -- The Year of the MOUSE *or* Sahara Provides Shelter for the Homeless

by Reagan Andrews

COMDEX/Fall 88 marked the "Year of the Mouse." There were mice everywhere at the giant computer extravaganza held during November in Las Vegas, Nevada.

This was especially true in the Sahara Hotel room occupied by NTPCUG President Jim Hoisington and his wife, Nancy. Jim described a valiant effort on the part of Sahara staff to capture the small rodent, including setting out traps baited with peanut butter.

Hoisington initially guessed that the mouse was part of some undocumented feature provided as an extra by the Sahara.

Once one of the premier hotel/casinos in Las Vegas, the Sahara has apparently fallen on evil days by the appearance of the tower where President (now) Hoisington and wife were housed for COMDEX/Fall 88 with the help (?) of (then) President Reagan Andrews.

The Sahara prevailed and the mouse succumbed to the trap. What to do with a dead mouse? According to Hoisington, the hotel didn't evidence any knowledge of appropriate mouse-corpse disposition, since they apparently wanted to leave it in the Hoisington's room until some unannounced suitable burial/disposal date.

Jim (or Nancy) won this round with the Sahara, but only after promising to leave the deceased rodent in some very public area to lay in state unless removed from the room promptly.

Mice are very communal (or conjugal) and nature cannot tolerate a vacuum. Soon, a second mouse appeared in the room.

COMDEX/Fall 88 was coming to a close for the Hoisingtons who had need of haste to return to Dallas and the November 19 NTPCUG Meeting. Jim and Nancy left the Sahara room to the mice. Jim reported later that he was told by Sahara staff that the mice were entering the tower via the elevator shafts, and had actually been displaced from their normal habitat by construction next to the hotel.

size originals and resulting system crashes. Lots of warm re-boots required.

Kurzweil, on the other hand, did show some very impressive and relatively inexpensive, less than $20,000, OCR's that would handle just about anything except handwritten text. According to one of the technicians present, they are working on this last item.

They didn't need any warm re-boots.

PC Commodity Machines -- High-speed 286 and 386's

I lied. Real prize for ubiquity was the 80286 and 80386 PC's from off-shore vendors. FAX and Scanners took second place to 20 and 25 MHz 80286 and 80386 powered mother-boards at Comdex.

Deal of COMDEX/Fall 88 was the Po Hai 12 MHz, 0 wait-state, 80286 combination. Located in the Sahara Exhibit Area, they were selling 80286 mother-boards, cases and power supplies, already crated for shipment for approximately $300. No DRAM included in this price. May have been cheaper, but we didn't see them.

Everybody was selling high-speed machines it seemed. Most interesting display – and conversation – was at the PC Designs booth where the design engineers were anxious to talk about their machines. Almost as much fun and enthusiasm as the Pick Pavilion. While I never thought about Broken Arrow, OK, as a center of sophisticated electronics design, I was impressed with both the PC's and the people there.

Small Footprint Looms Large at COMDEX

Picking up on the trend established by IBM's PS/2's, AST and Dell Computing, almost every PC vendor was displaying 80286 and 80386 machines in smaller-than-AT packages. This appears to be a major trend in PC design if Comdex is any indication.

Even the off-shore houses were displaying PC cases either lower or narrower than the accepted standard. Half-high and 3.5" hard disk availability seemed to make a substantial difference here. Many of the cases displayed wouldn't take 5.25" drives – period.

Non-small foot-print, but high-speed 286 and 386 boards were dominated by the PC/XT form factor. I.e., most of the 20 and 25 MHz boards displayed would fit into the standard PC/XT case as replacements for the original 8088 mother-boards. Although the XT (8088 version) was "dead" judging by this year's Comdex, the case may live forever.

Bulk of the mother-boards appeared to take what is beginning to look like "standard" memory boards on the 32-bit, 80386 machines with DRAM capacities ranging up to 16 and 32 MBytes. Several of the PC's would accept 64K, 256K and 1 M DRAMS in DIP packages as well as SIMM's of 256Kx9 or 1Mx9 in an effort to adapt to omnipresent DRAM pricing and availability problems.

Real Hustlers -- 30 - 32 MHz 80386 PC's

Several vendors were showing "soon to be available" 80386 PC's running at 30+ MHz. Screamers by any definition of the word, these typically had 25 MHz-rated 80386 chips with large heatsinks and lots of kludging to make the standard AT busses work. The same trend – running CPU's at higher than rated speeds – was also observed in a number of 80286 PC's being shown at 25 MHz clock rates.

Very few vendors were pushing their 16 MHz 80386 PC's if they had the show standard, 20 Mhz machines, in their line-up. The 16 MHz models were on the back row.

At the lower levels, 80286 machines seemed to bottom out with the "commodity" 12 MHz models. 16 MHz 80286's were quite common and 20 MHz machines seemed to be the "norm" if anybody was pushing 80286's at all.

Although a number of vendors were showing 80386SX powered PC's, they were not generating any substantial excitement or enthusiasm. A number of people looking at the few there pointed to the minimal price differentials between the 80386SX machines and their full 32-bit, 80386 brothers which seemed to dampen any advantage the 16-bit chip might have.

Around and Around in ever Bigger Circles

Disk drive vendors were at COMDEX/Fall 88 in full force. All the "name" vendors were there as well as a new "Yuppie" name for an established leader as well.

"Imprimis" is CDC (Control Data Corporation) by another name. Why did CDC change the name? Nobody there was quite sure. It wasn't to hide a shoddy product – they make some of the best and most respected hard disks in the industry.

Biggest news were smaller physical drives and huge capacities, though.

Imprimis was showing their "Swift" 3.5" drives, "Wren" 5.25" drives and larger. They did join the "Gigabyte+" bunch with an announced 1.2 GByte, 5.25" Wren VII drive. Imprimis also showed their "Runner" 5.25", 10.7 ms average access time, 380 MByte drive as well. ►

Micropolis, regarded as one of the premier 5.25" drive makers, displayed their new line of 3.5", high-capacity ESDI and SCSI interface drives. Micropolis also showed these drives ganged at multiple-GByte combined levels that was extremely impressive.

Micropolis also joined the 1 GByte+ elite with release of their 1590 Series, 5.25" SCSI drives rated from 668 - 1,049 MBytes (formatted).

Priam also hopped on the 3.5" standard with a line of high-speed, high-capacity drives to compliment their existing line of 5.25" drives. Priam has revamped their entire "ID" drive line and offers external models of almost all drives for machines with limited inside space such as the Mac's and other small footprint boxes. Priam topped out with a new 768 M, ESDI/SCSI 5.25" drive.

MiniScribe also is revamping their drive line(s) with addition of higher-capacity, half-height 3000 Series drives with SCSI/ESDI interfaces ranging from 72 - 160 MBytes (formatted) and the 8000 Series 3.5" drive line in the 20 - 40 MByte range.

MiniScribe hits the higher end with the 9000 Series of full height, 5.25" drives in ESDI/SCSI ranging from 338 - 668 MBytes (formatted).

Maxtor, as usual, revelled in displaying huge drives and was definitely in the GByte+ crowd. Maxtor probably was showing more 300 - 400 and 600 - 800 MByte drives than anyone else except Imprimis.

But that wasn't the real news at Maxtor – the "Tahiti" erasable and writable, 5.25" 600+ MByte optical disk drive was the absolute star here. It was one of the very, very few opticals to generate any excitement at COMDEX/Fall 88.

User Support – at Last – from Disk Makers

I saw lots of other disk drives at Comdex. I've included the manufacturers above because they represent the major players in medium and large drive business and tend to be the leading movers of drive development. Quality also is a significant concern to the manufacturers included.

There's another reason for their inclusion – and exclusion of a number of other brand names – that's user support. All of these makers have recognized that many of their drives are in PC's owned by individuals and/or small businesses that may have been abandoned by the original vendor.

Each either has an existing end-user technical support facility, or is establishing some method of providing technical assistance to the end user.

A major, commodity drive maker isn't mentioned here for the reasons above.

Mine's Bigger than Your's -- Large Monitors Revealed

Monitor "inch-creep" seemed to be surfacing at COMDEX/Fall 88 with announcements of several 20 and 21" VGA and Super VGA capable monitors in both color and monochrome versions. Although announced (and shown) last year, Mitsubishi's 33 and 37" Diamond Scan monitors were shown and used by several vendors at the show.

Hitachi was showing a 21" monitor with 1280 x 1024 at what was described as a "modest" $4190. Several other makers were showing 20" models at somewhat lower prices in analog monochrome versions that didn't appear that much larger than last year's 19" displays from Moniterm and others.

Back in the real world, NEC's multisync's, Zenith's flat-screen VGA monitors and Samsung monitors (under many, many nameplates) were universal.

High-contrast "white" screen displays on laptops were more common with Zenith and Compaq (the Houston, TX,-based clone maker) showing the most readable laptop screens by far. Did see a number of both laptops and clones of the Houston-made portable with pretty decent gas-plasma displays.

EGA/VGA adapters for use with overhead viewers were shown by several vendors. Most impressive were those by Kodak, Sharp and Chisholm which appeared to have both good resolution and acceptable contrast ratios.

A Bag! A Bag! My Kingdom for a WingZ Bag! or COMDEX/Fall 88 – Year of the Shoulder Bag

Bags were the most coveted give-aways this year. Not the paper or plastic shopping bags of years past, but real, honest-to-goodness cloth shoulder bags.

Why? Walking through COMDEX/Fall 88 means gathering pounds of printed material from the vendors. By day's end, 5 - 10 pounds of handouts, information sheets, etc., is easily accumulated.

Premier among bags, according to Comdex veterans, were the bright orange WingZ shoulder bags given away by Informix, but paid for in blood. Quest for ►

the WingZ bags led to one of the few real "downers" at COMDEX/Fall 88 for us.

We saw several as we registered the first day and thought they would be helpful. Little did we know the price to be exacted by Informix for their baubles. After checking the *Program & Exhibits Guide* for Informix' location (close) we found the booth – a replica of a space capsule surrounded by blinking lights and electronic music.

That was our first warning, one I shouldn't have ignored.

A very friendly, and attractive, young lady had an armful of the WingZ bags, but motioned us to what appeared to be a short line of people waiting for what she assured us would be an "exciting demonstration of a major new graphical spread sheet." That was a second warning, again ignored.

Was I wrong! We discovered that the line was serpentined like a crowded ski lift line at Aspen, but quite cleverly arranged so that one couldn't see its full extent until too late to back out. The electronic ?music? became louder and increasingly obnoxious as we waited. I did see two of the 37" Mitsubishi monitors setup toward the inner folds of the line.

Big monitors – crummy show. Both were out of focus and showing some third or fourth rate comedian mumbling about something (drowned out by the electronic music) but not apparently about the software.

On entering, finally, the "Space Ship" we were presented with a demonstration featuring Leonard Nimoy (greatly aged from his "Star Trek" days) that was so bad everybody there was almost doubled-over in laughter. I don't think anyone looked at WingZ much. This was done so poorly (even for a Macintosh-oriented exhibit) it was embarrassing.

We took the bags, though.

Another Bag, Another Boring Demonstration

Another bag, a beautiful blue shoulder bag, caught my eye later – at one of the two IBM display areas. I never learn. We went through another "short" demonstration in an enclosed area, this time of OS/2 Presentation Manager running Microsoft Excel next to a PS/2-50 running PC-DOS 4.0X (very carefully) in a well-choreographed, but quite boring exhibition.

There wasn't a long line going in. Coming out, there were no beautiful blue bags. IBM employees demonstrating various applications had stacks of them by their stands, but they were for IBM dealers only. Bad show, IBM.

KAO and Aldus Do it Right

Some oasis(s) in a desert of tired and aching feet were standouts at Comdex. KAO, maker of the colorful 5.25" and 3.5" floppy disks, featured several Recaro (sports car style) bucket seats in their display for footsore Comdex wanderers. KAO wasn't as "friendly" (didn't rain free 3.5" disks this year) as last year, but the seating was thoughtful.

Pagemaker publisher, Aldus, probably had one of the better ideas at COMDEX/Fall 88. Aldus had a setup pretty much like most of the other vendors with an important exception. Aldus had one area with approximately 15 PC's hooked up so visitors could work with *Pagemaker* and follow the demonstration of the new version's improvements.

Very, very impressive and thoughtful. A class act.

Reagan

PC Users Groups Courted by COMDEX/Fall 88 Vendors -- What a Difference a Year Makes

COMDEX/Fall 88 marked the year of the PC Users Groups. Last year, a PCUG representative or officer was lucky if vendors would deign to spend a few polite minutes in conversation with them.

This year, it seemed like major software and hardware vendors were standing in line just to get a few minutes with PCUG people. Activities at COMDEX/Fall 88 sponsored by several major vendors prove the point.

Microsoft seems to be the center of this new interest in PCUG's. Microsoft actually began a concerted effort to work with users groups over a year ago, filling the void left by IBM's withdrawal from the support arena.

Reason is twofold. Some PCUG officers, most noticeably Jerry Schneider who is former President of Capitol PCUG, have been quite active in communicating reality to the vendors. Spearhead behind the nascent Association of Personal Computer Users Groups (APCUG), Jerry has been getting the message about the PCUG's potential to Microsoft, Lotus, Word Perfect, AST and other PC industry leaders.

End user support forms the other half of the equation. Major vendors are realizing that active PCUG's do provide a major source of user support that otherwise would fall on their staff. As software and hardware becomes more complex, this will increase.

Result? I, Jim Hoisington and James Green spent a lot of time at COMDEX/Fall 88 with functions sponsored by Lotus, Microsoft, Word Perfect, Peter Norton Computing, *PC Computing* and *PC World*. Lotus sponsored an all-day forum on their present and future products on Tuesday, November 15. Participation required a non-disclosure agreement which is one reason Jim went and I didn't. I can't stand secrets after Microsoft this August.

James Green, *PC News* Editor, and I did attend the Editors Roundtable Meeting and buffet Tuesday night, however, sponsored by Word Perfect Corporation. Led by Richard Katz of the UCLA PC Users Group, this was an open discussion of the PCUG newsletter issues faced by the 50 largest PCUG's in the US and Canada.

Wednesday, Peter Norton Computing sponsored a breakfast meeting for PCUG officers where their Advanced Utilities version 4.5 was shown – and given – to participants. Two aspects stand out here.

First was a demonstration of a new utility, Norton Disk Doctor (NDD) that "repaired" a hard disk in a matter of seconds. (I was able to repeat this performance for myself Thanksgiving morning after a beta version of some major software corrupted the boot sector and partition tables on my hard disk.) Second was Peter Norton himself, a totally charming individual who would rather answer questions than give speeches.

Wednesday night, we all, Jim and Nancy, Connie and I, and James Green, attended an APCUG meeting at which Borland's Philippe Khan addressed the group and Borland, AST and Intel made some major commitments to the national group. Two things here too. One, Philippe Khan reminded me of Arnold Schwartznegger. Jim Hoisington will discuss the impact of the second during the coming year.

Following the APCUG meeting, Microsoft hosted a reception for the PCUG officers at which Microsoft had people who could really answer questions about Microsoft products – a rarity at Comdex. Former NTPCUG President Jim Graham came through the Microsoft reception and we had a few minutes to catch up on the Club and how Jim's doing in Houston.

Thursday night, Jim and Nancy attended the *PC World* dinner for PCUG officers while Connie, I and James Green went to the *PC Computing* dinner for PCUG officers. I can't speak for Jim, but conversation at the *PC Computing* dinner centered on PCUG's and some of Senior Editor David DeJean's views on the future of personal computing. Very stimulating.

Friday, we returned to Dallas.

Reagan Andrews

The Family Tree of Personal Computers

Part Three of Three Parts

Tom E. Krieg, BSME, PE, MBA
Investment Management & Research

Solid State Electronics History

The key players in this section of history are the story of the transistor and the integrated circuit.

The transistor story was born in the Bell Telephone Labs. The objectives were to develop something better than the vacuum tube. It had to do the same job, do it faster, cheaper, more easily, be lighter in weight, operate more cooly, and be more reliable.

The researchers on this task were three scientists, Walter Brattain, William Shockley, and John Bardeen. The critical experiment began in November and December of 1947. "Brattain wrapped gold foil around a plastic knife edge and slit the foil with a razor blade to make two closely spaced lines of foil" said Bardeen in an article in Science '84. "This was pressed against a block of germanium that had an electrical connection at its base. A small positive voltage was applied to the other (the emitter) and a large negative voltage to the other (collector), both relative to the base contact.

"An electric current) introduced into the germanium at the emitter flowed not to the base contact but to the collector and added to the collector current. Our device amplified by a factor of about 50," said Bardeen. The device was a success and needed only a name. Transistor is an acronym of "transition resistor"

(Source: The Amazing Transistor, Key to the Computer Age by Ross R. Olney and Ross D. Olney, Atheneum, 1986, N.Y. 1963, Chapter 4.)

This invention was to start a new form of electronics that would be revolutionary and spelled the end of the vacuum tube as a large industry.

The next breakthrough came from an engineer working in his laboratory at Texas Instruments. Jack St. Clair Kilby put together the first integrated chip using wires to connect the various parts together. On September 12,1958, Jack Kilby demonstrated a working model of the Integrated Circuit (IC), a 7/16 inch slice of germanium. About six months later, Frank Noyce at Fairchild Semiconductors succeeded in developing his IC with a slightly different facet - called the planer process that eliminated the need for wires. This process enabled the manufacturer to preprint a circuit design onto the silicon surface.

From this modest beginning sprang an industry of a new type of semi-conductors that spans the globe. This was only the start.

By 1967, Texas Instruments had invented the handheld calculator and everybody had to have one.

In 1968 Frank Noyce and his associate Gordon Moore leave Fairchild Semi-Conductor and founded Intel. They elected to pursue the development of integrated chips that will do more than just work in calculators.

In 1970 Intel releases the 1K Dynamic Random Access Memory (DRAM) chip. (TI invents the "single chip microprocessor"- the computer birth. Texas Instruments write-up credits Mike Cochran and Cary Boone with the Invention. Received Patent No. 4,074,351 on Feb. 14 1978 for the microcomputer chip.)

In 1971 Intel invents their first micro-processor, the 4-bit 4004, with computing power of 60,000 operations per second and 2,300 components. Intel invents the first EPROM 2K.(Read only memory.)

The remarkable point about the 4004 is that it had the computing power of the first Eniac computer built in 1946 which weighed about 30 tons (60,000 lbs.), powered by 18,000 vacuum tubes. Here was a chip one could hold very easily on a finger. (The 32 kilobit microprocessor, successor to the 4004, is 30,000 times cheaper than the ENIAC and 200 times faster.)

1975 - First personal computers enter the market. A do it yourself version called the Altair was advertised in Popular Electronics. During the next five years the names of Apple Computing, Radio Shack, and IBM would become well known and use the microprocessor to create the micro-computer age.

The integrated circuit made possible small computers for almost every conceivable need from space to oil well drilling. The evolution and rate of change in IC chips is producing a new type of chip and making an existing one obsolete on a yearly basis. The chip life has about a three year cycle from innovation to production until it becomes obsolete, not worn out. That may take several years once it is imbedded in equipment.

1986. Texas Instruments fabricated the first gallium arsenide IC on silicon substrate.

Intel introduced the 80286 microprocessor which was able to process data much faster than the 8086. It made its first appearance in 1987 model equipment.

Intel coordinated with programmers on the capability of the soon to be released 80386 microprocessor. ►

1987. First 1 megabit chips produced by AT&T. This is a major breakthrough in microprocessor design and production.

IBM announces the PC System 2 with the Intel 80386 Microprocessor.

IBM announces the new MicroBus system for internal data management.

1988. Compaq announces their Desktop series 386 with the 80386 chip that will run on DOS.

1988. A consortium of personal Computer makers announce that they are not following IBM's Microbus standard for internal Data Management but will stay with the traditional system bus that will allow their customers to upgrade without having to give up their old programs.

1988 and beyond. SEMATECH has goals of technology development that will help produce the 4 megabit chip. The next phase will focus on 16 megabit capability. The third phase which depends on the success of the first two is planned to go for 64 megabit chip production.

Applications - the most interesting prospect on the horizon is the Intel 80486 microprocessor chip. Using the appropriate software, one can build a super computer to compete with the Cray by ganging several processors together to solve a common problem. Under these conditions, the microprocessor driven CPU would be a more cost effective investment for a given application and with sufficient power, could even give Cray a run for the money.

For those of you who were raised on a mainframe here are some rough approximations of equivalent power of the PC at various times

1974 PC* using Intel 8080 chip	- IBM 704 of 1954 vintage.
1977 PC using ZILOG Z-80 chip	- IBM 7094 of 1962 vintage
1981 PC using Intel 8088 chip	- PDP 11/70 1975 vintage
1984 PC/AT Intel 80286 chip	- VAX 11/780 1977 vintage
1987 Compaq 386 wf Intel 80386	- VAX 8600 1984 vintage
1990 ?? Intel 80486 chip	- IBM 3090 1985 vintage

Source: Business Week September 26, 1988.

* Kits where one assembled one's own computer.

Now for one more little bit of perspective on the magnitude of change that has taken place that strikes closer to home. Every day on TV we are told about the number of shares traded on the New York Stock Exchange (NYSE) - a very slow day is 120 million shares. Just go back to 1957 for the whole year there were about 559.9 million shares traded - that's for the whole year. On Oct 19, 1987, in ONE DAY, 640+ million shares changed hands and people got upset because the computer ran 3 hours behind in processing their orders.

In my opinion, we witnessed an achievement of monumental proportions and yet investors were still not satisfied that enough had been done. If we are to project on a straight line, in 30 years 160 billion shares per day will be the peak order processing for the NYSE. Throughout these historical reviews I have tried to focus on the impact of change - some of it hurt at the time but also to bring into view the forces that were at work that led to the next improvement. In some cases they were driving demands from the public and in others they were more like a serendipity of ideas coming together at the right time at the right place. The demands were on industry to do something to replace the radio tube or produce a more reliable vacuum tube. The demands on solid state were to overcome the size and heat barrier that led to the integrated circuit. The response to high speed processing was again more research on how best to achieve a faster processor. This led to very large scale integrated circuits which in turn started questions about why so many commands were necessary which started the programming inquiry over again. This leads us then to what is ahead. The next section can only suggest some general categories that appear vulnerable to resolving questions of utilization, programming, and hardware evolution ass well as the direction in which some scientists are working to push back the veils of darkness.

Future Research - Future for Integrated Circuits.

There is an interesting challenge that will be encountered by the attempts at miniturization. Each one of these increases in chip capacities is premised on being able to reduce the size of the circuits and components so as to get more pieces on a chip. We are already working with circuits (lines) that are as fine as a human hair, about 100 micron. If you don't have much hair, try feeling the thickness of the edge of a piece of paper. Now, to move to the 4 megabit capacity, the experts estimate that the connecting circuits will be about 0.8 microns. So shave about 20% of the hair off of the strand or the edge of the paper. To get 16 megabits that strand of hair is reduced to half its original size and that edge of the paper is reduced to 1/2 what you started with. The third phase will be even tougher and that is to reduce the line size to just 30% of the original thickness. This is a 60% reduction in size from where you were. While all this is going on with the circuits (lines) the components are having to undergo an equal reduction to achieve a corresponding increase in performance on a single chip.

There is one concern that keeps haunting me and that is the effect of stray radiation on these miniturature components. We know that the earth is bombarded with various kinds of rays. At some point, it seems to me, there is a strong likelihood that the designer may be faced with a tradeoff between small size versus shielding for minimum weight and maximum performance.

The second question that comes to mind is this: Is it necessary to put everything on one chip? Can we not connect chips together to accomplish a particular objective in computing? ►

Future Trends Involving Computers and People

The October 1988 issue of PC Computing has an article headed by Irene Greif on the trend of the Workgroup and computing in the business environment. Several articles are suggesting that the power of the PC is rapidly overtaking the Mainframe computer and that we have in our hands today the smarts to guide and direct the future use of the PC.

It is extremely difficult to envision the need for so much power to be available unless it is used in a workgroup environment. The key ingrediant or thesis of the workgroup idea is a knowledge base. In the computer parlance this is some form of relational data base that has some common point of entry whereby each member of the workgroup can communicate significate information to each other without being sure who they are but knowing that your contribution will fit into a master framework and update, as necessary, any older data residing therein.

The problems under research basically are divided into software and hardware. In the fall of 1988, the hardware is outpacing the software—there is more capacity and power than there is software to take advantage of all this capability. By 1990 we should be seeing micro-processors that can process 4 mega-bytes of information or instructions per second. Some are hinting that even this may be a conservative estimate.

The mode of thinking until recently has been one person/one PC. In the workgroup thinking there is a mixture of the network, teamwork and the individual all trying to perform their expertise to accomplish more than as single individuals. This is a change in the way of doing things that can be better if successful in reducing the redundancy in operations.

The change in performance brought about by the workgroup could very well open the door to an entirely new type of software dynamics that results from the needs of the workgroup. This could lead also to a new set of requirements on the hardware.

So far, the advances in micro-processors have been refinements on the earlier successes. We are still dealing with a chip containing specific program instructions to perform certain operations and do them very fast. If you consider that the methodology is now about 30 years old then in about another 20 years it will be replaced by something else. Lets consider what that something else might be.

There are three places in the United States where there is research going on involving Neuron and Synaptic mapping. One is MIT, one is Stanford and the other is the Dallas Metroplex. The Bell Tellephone Laboratories have succeeded in making a chip that duplicates the neuron and connected it into a small circuit. It is still slow but it worked. The latest report on the neuron research was that a "tractor beam" had been developed that enabled the researchers to move a piece of the internal neuron without destroying it. *(Dallas Morning News)*. Previous problems encountered involved how to measure the electrical energy flow across the neuron without destroying it.

At this time, the neuron technology has some major problems to overcome before it can be a real contender as a replacement in the microprocessor chip market. The research on using Bacteria needs an even bigger break through. Both of these have to solve the problem of how to connect or duplicate the action of the study areas so that they can be attached to wires and incorporated into the electronic devices they will be replacing.

If the Integrated Chip Microprocessor does not have an immediate contender for replacement - what are some of the future expectations of these miracle chips?

The one getting the most attention is the plan of grouping several Microprocessors together and with a special program go into competition with:

The Mini-Computers

The Main Frame Computers

The high speed Scientific Computers (Small Cray Computers)

Grouping several of the Super PC computers into a Product Design Center- all feeding a central "Knowlege Base." and each PC equipped for special design conditions and solutions.

This brings to a close the series of articles that examines in a quasi historical manner the development and evolution of computing and the associated fields that collaborated in getting to where we are today.

Tom

Acknowledgements:

World Book Encyclopedia, 1958 and subsequent issues. This provided a good starting point for a listing of key dates.

Dallas Morning News and Dallas Times Hearld, Clipping Service provided by the Dallas Public Library - for background information on Jack St. Clair Kilby and Robert N. Noyce, and Sematech.

Texas Instruments in-house publication - 50 Years of Progress at Texas Instruments.

International Correspondence School Handbook, 1923 on Radio.

The Amazing Transistor, Key to the Computer Age by Ross R. Olney and Ross D. Olney, Atheneum, 1986, Chapter 3, The Electron Tube. Chapter 4, Description of the Invention of the Transister.

Business Week, Sept 26, 1988 - Intel, The Next Revolution. This information on Intel differs from the information available on Texas Instruments accomplishments. Where conflicts occured I tried cross checking. The Dallas Newspaper articles tended to support TI.

PC Computing, October 1988, The Electronic Workgroup, New Ways to Work Together. Ziff Davis Publishing Co.

NTPCUG BBS Study Committee Progress Report

The Holiday spirit seems to have at last overtaken BBS Committee activities. We are more or less stagnant until sometime after New Year's Eve. To prove we are still a viable organization, a somewhat open-agenda meeting was held the night of December 14th. After the holidays we will be more than ready to tackle the remaining major tasks.

In January our design team will finalize a proposed system design for improving the response and accuracy of the BBS subscriber initial sign-up and renewal procedure. The design goals are to reduce the manual effort required, decrease the turn around time, and improve the audit trail of the subscriber processing system. The dreaded postcard procedure is to be eliminated completely with the new design, so we are expecting great things of the new procedures.

Our newly appointed volunteers have been hard at work coming up to speed at their respective tasks, and progress is already being made. We have installed the new Chairman software release on a test system. The release has been tested, and once some outstanding areas of concern have been resolved, the new release will be installed. I expect that you will be receiving further information on this and other BBS subjects, as we now have a Public Information Manager.

Many members have recommended their favorite BBS software as a replacement for Chairman. Some have gone so far as recommending that we abandon MS/DOS and substitute a "REAL" operating system which would, I'm sure, solve all of our BBS problems. I appreciate very much this input from the membership. Your help is needed in finding software products that could possibly replace Chairman.

Following are *my* basic requirements for products that we will accept as viable contenders. If your favorite BBS software does not meet any of the following minimum requirements, please do not waste your time or mine by proposing it. I really would hate to hurt your feelings.

The minimum requirements are; (1) MS-PC/DOS based. Yes there are "better" operating systems but they aren't what we intend to use; (2) True Multi-line. This means no "Kludge" arrangements like DoubleDOS, Quarterdeck, Windows, Networks, and etc. The product must stand alone with internal multi-line support. No add-ons of any kind; (3) Full remote maintenance capabilities. This means ideally being able to successfully run the BBS without ever having to physically touch the host machine.

Please remember that these are the *bare minimum* requirements. The final list of desired features and the detailed scores posted by the products evaluated will be published as a committee report. And in the end, we will have selected the product that meets the greatest number of our "ideal" needs. Let this be fair warning. Chairman does well in meeting some level of these minimum needs. Chairman's Achilles Heel would appear to be the user interface and message management.

The members whose "Baby Duck" software products are losers will bring forth a mighty wailing and gnashing of teeth, and will be ignored. The selected product's champions will put on an extremely smug "I told you so" look and rejoice mightily. I personally, as I'm sure will the rest of the committee, will sigh a huge sigh of relief, for finally our task will be complete.

Fred Williams
BBS Study Committee Chairman

North Texas PC Users Group
Personal Users (Beginners) 16-Class Revolving Schedule

Sched.	Class	Class Title/Description
Apr 89	1.0	Start Up
	2.0	Diskette Sizes & Formatting Each
	3.0	Copying & Backing Up Files
	4.0	Hardware
Jan 89	5.0	Fixed Disk Directories, Batch Files & Paths
	6.0	DOS Menu Systems on Fixed Disk
	7.0	Installation & Setup of LOTUS 1-2-3
	8.0	Running BASIC Programs
Feb 89	9.0	Writing Your Own BASIC Programs
	10.0	NTPCUG Disk of the Month Library
	11.0	PC Graphic Modes
	12.0	Bulletin Boards & Archive Programs
Mar 89	13.0	Printer Setup
	14.0	Writing LOTUS Macros
	15.0	Major Categories of Software Applications Available Today
	16.0	PCs to the end of the 20th and into the 21st Century

Four Classes are offered each month (at 9:00, 10:00, 12:00 noon, and 1:00 pm). Across four months all 16 of the classes are completed, and the cycle starts all over again. Each class is independent of the others, thereby allowing people to begin attending classes any time their schedule allows. The classes are free and are open to all beginners, novices, new PC owners, soon-to-be owners and personal (vs. professional) users. Come join us as we cover the fundamentals!

Bob Presley, SIG Coordinator

Official 1989 Ballot

North Texas PC Users Group, Inc.

USE ORIGINAL BALLOT
(Copies not acceptable)

I vote for:

President-Elect:

_____

Nominees for President-Elect:

Zack Porterfield

Board of Directors:
(Vote for 3)

Nominees for Board of Directors:

Reagan Andrews, Ph.D.
Phil Chamberlain
Robert Hilliard
Sid Nolte, Ph.D.

_____

_____

_____

Mail ballot to Secretary, North Texas PC Users Group, P.O. Box 78066, Dallas, TX 75378-0066, or bring to January meeting. Mailed ballots must be received by the Secretary no later than January 17, 1989.


Zack Porterfield


Reagan Andrews


Phil Chamberlain


Robert Hilliard


Sid Nolte

Zack Porterfield

Zack Porterfield has been an active member of the Club for three years and currently serves as SIG Co-coordinator with Phil Chamberlain. He also has worked at the Information Booth and DOM area at meetings.

A native of Tulsa, OK, Zack holds B.S. and M.S. degrees in Business. He is co-owner of F & P Associates, and is primarily involved in systems software consulting. Zack reports that his interest in PC's began in 1979 when he acquired his first TRS-80 Model 1, followed by an Apple][, then an IBM-PC in 1981 and culminated by his current 80386 machine.

Reagan Andrews

Reagan Andrews, Ph.D., is immediate past president of the Club (1988) and has been a member since January, 1983. He is currently Co-leader of the DOS SIG and is organizing an MS-WORD SIG to begin in January.

A Clinical Psychologist and Chief, Post Traumatic Stress Disorder Program, at the Dallas Veterans Administration Medical Center, Reagan also has a limited private practice in treatment of stress-related disorders. He holds B.A. and M.S. degrees from SMU and earned a Ph.D. at the University of Texas Health Science Center at Dallas.

Phil Chamberlain

Phil is retired after managing the Eastman Kodak plant in Dallas, and 40 years with the company. For a number of years he taught color photography to Kodak employees and to the motion picture industry in Hollywood and New York. A native Iowan, he received a degree in Chemical Engineering from Iowa State University.

Phil has been involved with computers since 1962, and was one of the original members of North Texas PC Users Group. He has led several of the SIGs, including Turbo Pascal and Beginners. Currently he is the SIG Coordinator, and also our representative on the Board of the Computer Council of Dallas. His biggest interest is in helping the newcomers learn to use their computers productively.

Robert Hilliard

Robert Hilliard is an Applications Programmer for Texas Instruments, and has served in multiple Club volunteer roles since 1987. Currently he is working with Stuart Yarus in a combined NTPCUG/CCD role managing INFOMART room assignments and setup for monthly meetings.

Robert worked intensively at both the Information Booth and DOM areas before being selected to help with room assignments and setup earlier this year. He is a native of Houston, TX, has studied at the University of Pittsburgh and is currently completing a degree in Economics, Finance, and Mathematics at the University of Texas at Dallas.

Sid Nolte

Sid Nolte, Ph.D. is currently "C" Language SIG leader and has been with the NTPCUG since 1983. A mathematician with degrees in Mathematics from the University of Iowa and Iowa State University, Sid was a Senior Member of the Technical Staff at Texas Instruments until his retirement in 1986.

Currently, Dr. Nolte is a Senior Scientist at SAIC and is an avid personal computer hobbyist. His background includes development of mainframe operating systems, numerical analysis and calculator software among others.

Change in Bylaws to be Voted on at January meeting.

Your Board of Directors has recommended a bylaw change that adds additional membership classifications. Paragraphs "c" and "d" below contain the recommended additions. A vote will be taken at the January meeting for incorporation of these changes. There are no changes in paragraphs "a" or "b."

Section 2.2 MEMBERSHIP CLASSIFICATIONS

There will be four (4) classifications of membership as follows:

(a) Regular membership shall be that of any individual who is the owner of or has an interest in an IBM Personal Computer and compatible product lines, peripherals, operating systems and software and does not meet the requirements of any other membership classification;

(b) Student membership shall be that of any individual who otherwise qualifies as a Users Group member and is also enrolled on a full time basis as a student in any public or private institution of learning.

(c) Associate membership shall be granted by a majority vote of the Board of Directors to other user associations, computer industry corporations, or trade publications. The rights and privileges of an Associate Member shall principally consist of the receipt of the Organizational Newsletter and such other rights and privileges as shall be individually granted by the Board of Directors.

(d) Emeritus membership shall be granted by a majority vote of the Board of Directors to a current member of long standing whose distinguished service to the organization over a period of years requires permanent recognition. The rights and privileges of an Emeritus Member shall be a lifetime membership with the full rights and privileges of a Regular membership, the inclusion of the member's name in an Emeritus Member list on the officers' page of the Newsletter, and such other rights and privileges as shall be granted by the Board of Directors. The Board of Directors shall be constrained to the granting of a maximum of a single Emeritus membership per calendar year.

The above membership classifications may be changed from time to time by a majority vote of the Board of Directors.

Inside the North Texas PC Users Group Community

Connie Andrews, Volunteer Coordinator
John Mackoy, Assistant Volunteer Coordinator

Volunteers are the lifeblood of the Club. This is another in a regular series recognizing those Club members who have contributed their time and efforts as volunteers to assist in presenting the monthly meetings.

Volunteers are listed by area(s) served for the December 17, 1988 Club meeting. SIG Leaders, Officers and Directors of the NT PC Users Group, the newsletter publisher, editor, staff and writers are volunteers, but are listed separately in other sections of this newsletter.

INFOMART Liaison:

INFOMART Liaison:

Stuart Yarus
Robert Hilliard
Bob Russell
John Mackoy
Archie Pinkney

Presentation/Equipment Setup:

Timothy Carmichael
John Ogle
Tom Powlston

Information/Registration Booth

Connie Andrews
Mike Ashley
Chas. Patrick DeVille
John Dyer
Steve Fleming
Paul Fredd
Rick Griffith
Allan Harbaugh
Danelle Harris
Delbra Henderson
Tom Krieg
John Mackoy
Claude McClure
Berard McLaughlin
Andy Oliver
Archie Pinkney
Eugene Taylor
Juanita Taylor
Connie Testa
Eric Thomason
John Trotter
Larry Tucker
Bobby Wrenn

Disk of the Month (DOM) volunteers:

DOM table

Dan Allen
Joe Allen
Ron Anderson
Roy Bales
Preston Brashear
Paul Buehrle
Jay Chambliss
Don Chick
Mike Conner
Lonnie Cordell
Dawn Cupit
Bill Drissel
Shawn Dunn
Mike Praley
Pat Henley
Hal Horton
Bob Karlebach
E. M. Kelley
Ron Kerr
Duane Martin
Don Mayfield
Bob Post
John Sheppard
Jimmy Stallworth
Jerry Stone
Jean Taft
Oscar Tyler
Russell Walker

DOM Central Committee

Preston Brashear
Charles Carter
Kathryn Crawford
Mark Grunner
Howard Hamilton
Hal Horton
Kenneth Loafman
Pete Testa, BBS Liason

DOM Review/Presentation

Preston Brashear
Charles Carter
Jim Green
Mark Gruner
Howard Hamilton
Kenneth Loafman
Jerry Sanders
Howard E. Smith
John A. Thomas
Ben Weatherall

Bulletin Board System (BBS) Volunteers:

BBS Sysops

Tom Prickett
Maggie Mooney

BBS Steering Committee

Andrew Chalk
Kent Cobb
David McGehee
Pete Testa
Fred Williams

BBS Champion

Lee Meador

Club policy is that volunteers registered on duty at the time of a drawing on meeting day are eligible to win even though not in the Auditorium.

If you are interested in participating as a volunteer, either on meeting day or in other activities throughout the month, don't be bashful - let us know!

Members who would like to sign up for volunteer activities should inquire at the Information Booth in the lobby on meeting day. You may also contact Connie Andrews on the Club BBS (Bulletin Board) or at (214) 828-0699, or John Mackoy on the Club BBS or at (214) 291-0787. Those members primarily interested in DOM activities may sign up on meeting day at the DOM Booth, or on the Club BBS in the DOM Conference area.

Our members have discovered that it can be quite rewarding in terms of getting to know our Club and its people. Let us hear from you!

SWAP SHOP

Four lines free each month to members; 5th through 10th lines at 30 cents per word. Larger ads at commercial space rates. Send check to the Editor for words exceeding the four-line limit. Free ads are on a space-available basis. Mail ads to the Editor.

Want to buy: Used IBM-PC or compatible with minimum config: 256K, mono, I/O card, & 2 floppy drives. Want to Sell: New Epson forms tractor unit #7304W (for LQ-1000). Call Roy at (214)243-8422

A New Procedure for Submitting an Article to the Newsletter

As part of the process of dividing up the work of publishing the PC News, we needed an electronic medium to help coordinate the efforts of a growing group of people. We tried the bulletin board, but found it awkward because the normal DIR, COPY, DEL and RENAME commands were not available to anyone but the sysop. For this reason, we have set up a separate newsletter exchange (1) for use by the general membership to submit articles and send mail to the newsletter staff, and (2) for use by the newsletter staff to coordinate their work and move articles around, etc.

The newsletter exchange, or "Exchange" for short, is a Hewlett Packard 50 computer running the HPUX (Unix) operating system. The HP50 uses a 25 MHz 68020 and a very large disk. The Exchange really consists of a group of user accounts, or "logins", on this computer. Don't panic, we have redefined all the commands we need to their DOS equivalents, so to anyone submitting an article, the Exchange looks like a multi-user DOS machine with a few extensions.

For our purposes, this computer has a number of advantages:

1. It is *very* fast.
2. Multi-user access and protection are built in.
3. It has a well-debugged mail facility.
4. All commands can be redefined to look like DOS.
5. It *reliably* supports Xmodem and Kermit file transfers.
6. The system is rock solid and bullet proof.

Using the Newsletter Exchange

Call the Exchange at 214-830-6360 or 830-6361. Set your modem hardware *and* terminal emulator software to N-8-1. Currently the computer only has 1200 baud modems, but I am trying to change 830-6361 to 2400.

When you connect to the computer the following will appear:

login:

If it looks like Greek, transmit a break (Alt-B on Procomm Plus, ALT-F7 on Procomm) and an English version will appear. Type *ntpcug* (all lower case). Immediately you will see:

password:

Type *news* (all lower case). You will get a welcome message and you are logged in and running. A prompt will appear:

NTPCUG>

Brief Tips

To log off the computer, type Ctrl-d. **Type all commands in lower case.** For help type *hints*. Other help is available; see hints.

NOTE: Logging off with Ctrl-d does not disconnect your modem from the HP computer. When you log off, you should get the *login:* prompt, asking you to login again. To disconnect your modem, send your *modem* the disconnect (or hang-up) command. If you use Procomm it is Alt-H (for hangup).

Commands

NOTE: Unix cares about upper-case and lower-case, so type all commands and filenames in lower-case to avoid problems. Note that a file named myfile.doc is different from Myfile.doc or MYFILE.DOC.

Commands:

NOTE: TYPE ALL COMMANDS IN LOWER CASE!

dir	list directory; works same as DOS but listing is not exactly the same.
del	Delete a file; same as DOS.
rename	Rename a file; same as DOS.
copy	Copy a file; same as DOS.
type	Type a file on screen; similar to the DOS MORE command. Press space bar for more, press *q* to quit.
mail	Send and receive mail messages. See details below.
umodem	Transfer files using XMODEM protocol. Type *xhelp* for more details.
kermit	Transfer files using KERMIT protocol. Type *khelp* for more details.
names	Lists current NTPCUG newsletter login names on screen.
submit	Submit file to PC News. This command moves the file to the editor's home directory and removes it from the *ntpcug* directory. After using *submit*, the file you uploaded and submitted should not appear in the directory listing.

DOS-Like Commands

Try the *dir* command. The report format is somewhat different from DOS. The file name appears on the right and there is more information about the file including how it is protected. *copy, rename, del* and *type* all work about the same as DOS.

Help Commands

To get general help, type *hints*. To get help on uploading and downloading, type *xhelp* for XMODEM help or *khelp* for Kermit help. Type *names* to see a list of current NTPCUG login names to which you can send mail.

Mail

To read mail type *mail*. After each message there will be a "?" prompt. Type Enter to save the message. If there is no mail, it will tell you. (Normally there will be no mail for you.) To send mail type *mail loginname*. (For example, to send mail to the editor, type *mail jgreen*.) The cursor will be positioned on the next line. Type your mail message using as many lines as you like. When finished, type Ctrl-d to send the message. The prompt will reappear. A list of newsletter login-names is displayed by typing *names*.

Uploading And Downloading

Either the XMODEM (called umodem on Unix) or KERMIT protocols are available. I like Kermit. Procomm supports both, and both seem to work. For details of use type *xhelp* for umodem (XMODEM) help and *khelp* for KERMIT help. Examples of use are in each help file. The newsletter staff has standardized on Procomm (available from the DOM) as our comm package, so we know that the Exchange works with it. You may have to experiment with your comm package. Send mail to *jgreen* if you have a problem.

Article Format And Filename Extensions

The newsletter staff has standardized on Microsoft WORD as our word processor. Thus, we prefer that you submit your article as a WORD formatted (*.DOC) file. All of WORD's formatting slides transparently into Ventura. Our second choice is another of the popular word processing packages which can be translated into WORD format. Our third choice is straight ASCII text (*.TXT). Please, only use the DOC filename extension for WORD formatted files and the TXT filename extension for ASCII text files. Use your word processor's standard filename extension, so long as it is *not* DOC or TXT, for any other word processor formatted file.

Submitting an Article

1) Write an article. If you can, use WORD.

2) Log in to the Exchange and upload the file.

3) If you wish you can check to see if the file transferred without errors by comparing the file length using *dir* or by downloading the file that you just uploaded and checking it.

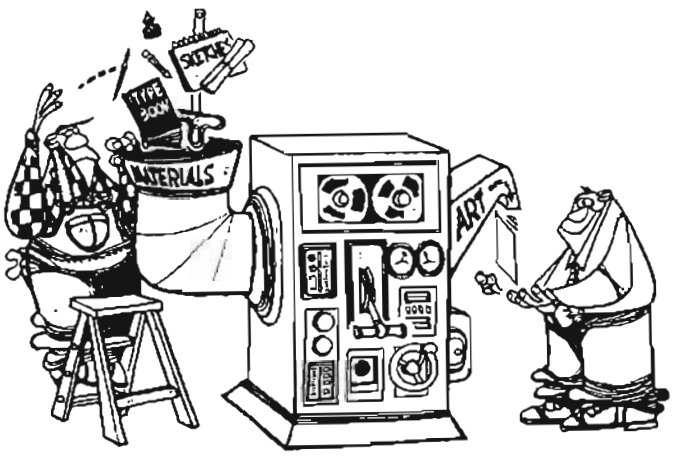
4) When you are satisfied that everything is OK, submit the file using the *submit* command. The syntax is *submit filename*.

5) Send the editor (me) mail giving your name, telephone number, and the file name you submitted. See MAIL above.

Please Write Something

The purpose of this user group is to *help each other*. One way to do that is to share something you know by writing an article for the newsletter. Everybody is an expert on something or has solved a PC problem that would be of interest to others. Share it with the group. Your article doesn't have to be long or complicated. It can be just a short note. As the Bartles and James boys say, "Thanks for your support".

Jim Green



Selected SIG Happenings

News and Meeting Notes on Special Interest Groups

(Material for this column should be sent to Zack Porterfield, SIG Coordination, before the 15th of the month.)

Graphics SIG

The December meeting was devoted to Business Graphics Software. Several members made graphs with their favorite Business Graphics Package from a standard set of data. It was interesting comparing the results and discussing the different program user interfaces.

The topic for the January 1989 meeting will be Graphics Hardware available for IBM PC's and Compatibles. We will look at the current Graphics Standards (CGA, Hercules, EGA, and VGA) as well as the extended VGA boards that are available from many third party vendors. We will also look at current monitor types and attempt to determine what works together. If you have questions on upgrading your PC graphics hardware, or have already upgraded and would like to share your experiences with the group, the January Graphics SIG is designed for you.

During 1989, we plan to have a prepared presentation at each meeting. We always plan time after the presentation to answer PC Graphics related questions. If you have questions or would like to share your PC Graphics knowledge, plan to attend.

Richard Terreo

Lotus SIG

The subject for the December meeting was originally going to be a discussion of printing 1-2-3 and Symphony spreadsheets and the options available from within the programs. But since Lotus Development Corporation was at the meeting in December, Pat Henley and I offered our SIG meeting to Lotus and they presented the 1-2-3 add-in Allways to the SIG.

Allways is an add-in that allows 1-2-3 users to prepare presentation quality printouts directly from their spreadsheets. Allways includes multiple fonts and point sizes, shading, outlines and boxes, variable row heights, plus more. Allways is part of a current promotion for 1-2-3 where Lotus Authorized Resellers will provide a free copy of Allways with a purchase of 1-2-3.

Since the December subject of printing was not discussed Print options available from within 1-2-3 and Symphony as well as some printing tricks will be presented in the January meeting.

For all of you LOTUS magazine readers, check out the December issue. A list of Lotus Special Interest Groups that starts on page 104 includes our group on page 106. In fact Mark has already received several phone calls about the group and some of the callers came to the December meeting.

The Lotus SIG would like to thank Lotus Development for presenting Allways at the December meeting. The SIG ALLWAYS (sorry about that) takes time to answer questions concerning Lotus 1-2-3 and Symphony. If you have any questions, come by and see us in January.

Mark Gruner
and Pat Henley

Cryptanalysis SIG

The Cryptanalysis SIG has begun study of the simple substitution cipher without word divisions. Just suppressing blanks makes this cipher an order of magnitude more difficult than newspaper cryptograms. It is necessary to master analysis of this cipher to go on to more advanced ones. The simple substitution without word divisions leaves pastime puzzles and begins scientific or serious hobby interest in cryptanalysis.

We now have our own conference on the bulletin board, CRYPTAN SIG. Because we are too many now for me to bear the cost of mailing tutorials, please download the tutorials from the conference. CRYPTAN SIG also has a bibliography of cryptanalysis. The tutorials are a stopgap until you can get the textbooks. I will continue to pass out the tutorials in meetings. It's just the mailing that is getting too expensive.

Also, once we finish this gateway tutorial, the group will be too advanced for newcomers to readily catch up. So, if interest continues to grow, we may split the SIG into Beginning and Intermediate Cryptanalysis.

CIPHER LORE

Practically everybody will admit they do not know how to break codes, but practically everybody thinks they can invent one so cunning that nobody can figure it out. Inventors go so far as to calculate the key space, estimate future processor speeds, and accurately compute that it will take four trillion years to try all keys, so their crypto-system is probably secure. Good arithmetic, nice estimates, bad logic.

I didn't pluck four trillion years out of the air. The keyspace of a simple substitution cipher, the kind you see in newspapers, is 26!. If you estimate that one key can be tested every microsecond, it would take about four trillion years to solve a newspaper cipher. According to the inventor's reasoning, newspaper ciphers are ►

clearly secure for all practical purposes.

The fact is that inventing a crypto-system is known to be a very hard problem - that is, inventing a good crypto-system, since any fool can invent a bad one. In contrast, breaking a crypto-system is much easier. It is one of the unexplained quirks of human nature why we regard code breaking with awe, as if it were magic, but presume that anybody, especially our clever selves, can invent one.

Sober corporations are just as prone to this quirk as individuals. The respected accounting firm, Deloitte, Haskins, and Sells, Ltd. offers FORTRESS, their proprietary crypto-system for data security for PCs. It is particularly inept, quite vulnerable to known plaintext attack. As if to help the code breaker, Deloitte, Haskins, and Sells, Ltd. also provides the known plaintext – FORTRESS encrypts one FAT and leaves the other in the clear. With the two FATs it is trivial to recover the key and read the whole disk, as Martin Kochanski, "Another Data Insecurity Package", Cryptologia, Vol XII, No. 3, pp 165 - 173, explains. Kochanski's article includes a Turbo Pascal program to break a FORTRESS encrypted disk for you in case you don't care to work it out for yourself.

Kochanski's business is data security, particularly encryption, and he delights in breaking the offerings of his rivals. He seems to like twitting them too. He solemnly informed Deloitte, Haskins, and Sells, Ltd. that FORTRESS lacked security. Basically, the respected firm refused to believe that their system had been cracked, and publicly stated that Kochanski had "merely achieved what any authorized user might obtain from his own files."

A very human response. The alternate SIG leader, myself, and a third person, broke CRYPTON a couple of years ago, a freeware offering on CompuServe, on the dare of CRYPTON's author. We got $50 for it. Although he paid, he too denied there was a problem. He allowed that CRYPTON was less secure than he thought, but claimed that CRYPTON was adequate anyhow because we were "experts" and didn't count. The real problem is that it is very hard to admit that you are less clever than you thought, especially if there is money at stake.

The pile of broken systems grows. Wordperfect's Lock is another inept system. James Bennett describes how to break it in Cryptologia, Oct 1987, Vol XI, No. 4, pg 206.

Borland's proprietary Superkey has fallen to the redoubtable Martin Kochanski. Note well that Borland supplies both the DES and their own proprietary system in case you don't like the slowness of the DES. The DES is NOT broken; the proprietary system is. Kochanski's analysis can be found in "A Survey of Data Insecurity Packages", Cryptologia, Jan 1987, Vol XI, No. 1. He has also broken:

* Padlock, by Sovereign Software, Ltd. England

* CRYPT, by BCS, Frankfurt, West Germany

* N-Code, by K+L Software, Silvar Springs, MD

Only N-Code offered any resistance, requiring some known plaintext. All the others can be broken without known plaintext, by pure cryptanalysis.

Finally, Ciarcia's Circuit Cellar Data Encryptor, described in Byte, 1986, Vol 11, No. 9, has been broken by Peter K. Pearson, who describes his attack in "Cryptanalysis of the Ciarcia Circuit Cellar Data Encryptor", Cryptologia, Jan. 1988, Vol XII, No. 1. This is a very instructive paper because Ciarcia's Data Encryptor uses a linear shift feedback register random bit generator, capable of a very long pseudo-random stream. That is very bad, known to be insecure, but if you took a poll of PC users it is likely to be the kind of crypto-system they would believe is secure. Pearson's analysis of how to attack this class of crypto-system is straightforward, and something that should be common knowledge. The ad asks "Do you know where your data is tonight?" You should ask yourself "Do I know who my data sitter is?" Learn to break a few ciphers, and perhaps you can judge for yourself.

R:BASE SIG

The December R:BASE SIG meeting was highlighted by a programming demonstration by Rick Hauslein, Past President of the North Central Texas R:BASE Users Group. The 'inside' look of his church management program was very informative and educational for all in attendance.

An announcement was made at the North Central Texas R:BASE Group on January 12th (the group meets the 2nd Thursday at the Addison Fire Training Center) that the R:Base Compiler will be delayed from shipping for 4-6 weeks. It is thought this hold-up time is to polish any rough edges and eliminate any bugs before distribution. According to Microrim, there is a tremendous number of orders for the new 'TRUE' Compiler.

For the January meeting, I had hoped to give a demonstration of the new compiler, however I will be showing it's first cousin, R:Turbo. The two products are very, very similar, with the same Codeview-like debugger and blazing speed. Bring your R:Base programs to the January meeting and we will compile them on the spot into a fully executable EXE. The R:Turbo Compiler uses only System V commands, so bring your APP files and RBF files (3.5" 720k) if you want to see your application run at warp speed.

Making Sense of Utility Programs

Part 1 of 2 Parts.

Matt Mathews, M.A.

Have you ever wished that DOS was easier to use and had more functions? Or that you could enhance the performance of your computer system without the great expense associated with hardware upgrades? Utility programs can provide a relatively inexpensive answer to these questions.

Using a personal computer with a software library consisting only of application programs (word processing, spreadsheets, database, and communications)—with a few games thrown in for fun—may meet your minimum computing needs. These workhorse programs probably occupy most of your computing time, but using your computer with these only can be a bit like living in a house without curtains. Utilities can make living with your computer more comfortable and more productive.

You may well ask, "What is a utility program?" With a typewriter, paper, and a calculator, you could manually (and slowly) produce the work that most application programs do. On the other hand, the work that most utility programs do is unique to computer operations. Typically, utilities do not produce the same kind of output that your applications do. *A utility program performs a limited, but useful function that is not specific to an application program.* It has . . . , well, "utility" in solving problems that were created by using a computer instead of manual methods in the first place. (Have you ever forgotten which directory contained a file you were seeking?) In short, you only need utility programs if you use a computer!

Part of the reason for having utilities rests with the nature of DOS: It is neither easy to learn, nor to use. DOS error messages may strike new users as downright hostile. Since its birth eight years ago, DOS has been through four major revisions and a host of minor ones. Until the introduction of Presentation Manager with DOS 4.0 (pronounced "four point oops!"), DOS has not changed substantially in the way it works. These revisions have corrected some bugs (operational errors) and added some new functions. For example, beginning with version 2.1, DOS supports using a hard disk and using directories to separate files into logical groupings. It also added a command to copy all programs and user files to floppy disk for safekeeping (BACKUP.COM). So in reality, DOS does contain some utility programs, but they are not easy to use, and require fearlessness at the command line. I still have yet to find a utility that is more difficult to use than its DOS equivalent.

With the expanded use of personal computers, the profile of users changed from programmers and hobbyists to business people and occasional (or "casual") users. The new users demanded more ease of use than DOS offered. And as equipment evolved, users wanted increasingly varied hardware and software combinations. Taken together, the difficult nature of DOS, the change in the profile of users, and the evolution of increasingly sophisticated equipment and programs have set the stage for the wide variety of utilities that we have available today.

So many utilities exist that it is useful to review them in terms of some general categories. Three broad categories of utilities are:

- programs that help you with DOS commands
- programs that work with your hardware to enhance performance
- programs that supplement your application software.

Program names are listed (in ALL CAPITAL LETTERS) for many of the uses that follow. These are intended as examples of widely used programs and not as endorsements of specific products. Trade-marked names of commercial products are followed by the name of the publisher (usually in parentheses) the first time the program name appears. Where a product name is not mentioned, look for a utility in the public domain.

Utilities That Make DOS Easier to Use

The most commonly-used DOS commands allow you to copy and erase files, format a disk, create directories, list files in a directory, and change from one directory to another. Users who depend on their data being available (doesn't that include every user?) also make back-up copies of everything periodically. (When did *you* last BACKUP?)

The major problem with DOS is that it is user-hostile. DOS's favorite phrase is "Bad command or filename." You have to remember to use the correct syntax (word order), number of parameters, proper switches, *and* have good spelling, in order to get the results you want. Using DOS requires a fair amount of expertise for all but the most common commands. ►

Shells to the Rescue

The reason multiple-choice tests are generally easier to take than essay tests is that you can *recognize and identify* information that you know easier than you can recreate it and write it out. Similarly, DOS shell programs insulate you from the intimidating DOS system prompt, C:\>, by providing a menu from which you issue commands with a single keystroke (such as C to Copy a file, D to Delete a file, M to Move a file, and so forth). Most of these programs let you tag related files so you can copy, delete, or move them as a group. The Still River Shell is a well-known, user-supported (inexpensive) DOS shell program. It is distributed through the same channels as public-domain software. (Distribution channels are discussed under the last heading in this article.) Many other commercial programs discussed below often include a shell menu interface.

Hard Disk Management

DOS has only the TREE command (TREE.COM) to show you how the hard disk is organized. You could spend a long time changing directories and typing DIR (to get a list of files) in every possible directory trying to find a misplaced file. Most commercial, hard-disk management utilities not only give you a visual representation of the directory tree while you are ordering your files around (something TREE.COM does not do), but they also include a shell in which to use DOS commands. They let you view the contents of a file, and sort all files on a disk by filename, extension, date, or size. You can modify the attributes of files (read-only, archive, system, hidden) so that you can write-protect some files and delete others. Some, such as XTREE PRO (Executive Systems, Inc.) and WindowDOS 2 (WindowDOS Associates), even let you edit text files.

Hard disk managers make it easy to find a misplaced file or groups of files. The FILE FIND command in the Norton Utilities (Peter Norton Computing, Inc.) quickly looks for through all directories on a disk for a specific file (or group of files) and reports the location. The NORTON CHANGE DIRECTORY command (NCD.EXE) provides a visual tree of your directories and allows you to change directories with fewer keystrokes than usual. You simply put the cursor on your destination directory and press Enter to change your location.

Menu systems allow casual users to start application software without having to remember how to change directories or find executable files. They vary in how easy they are to set up. AutoMenu is a shareware menu system from Magee Enterprises.

File Management

An extension of Murphy's Law states that every long-term user will lose a file or have a hard disk fail—it is only a question of when the event will happen. To protect themselves against this inevitability, savvy users make copies of everything periodically.

DOS (since version 2.1) has a BACKUP utility that copies files from your hard disk directories to floppy disks in a compact form. Its drawback is that it is so slow and awkward to use that many people court disaster by avoiding making backups all together. Commercial backup utilities usually have functions that DOS lacks, such as the ability to:

- specify the files and directories you want to back up
- include or exclude other file types or attributes (so that you can backup only files that have changed since the last time you backed up)
- determine how many disks you will need before starting the backup
- format a disk during the backup
- selectively restore files from back-up disks to your hard disk.

In almost every case, the commercial backup programs are faster than DOS's version. Getting fast, reliable backups makes the task well worth your time. It is only a matter of time until your hard disk fails. You have been warned!

Breaking Copy Protection

For several years, some commercial programs have contained copy-protection schemes. The intention of using copy protection on applications was to prevent software piracy—the illegal practice of "sharing" copyrighted works. But many of the protection schemes interfered with installing the software on hard disks or prevented users from making a back-up copy to use in case the master disk failed. Some programs allow installation on a hard disk but require that a "key disk" (an original distribution disk containing identification code) resides in the floppy drive during program operation. This prevents users from using the floppy drive for data access.

Almost as fast as a new copy-protection schemes were introduced, someone else found a way around ➤

them. Vendors of "copy breaking" software claim that users may have (depending on State laws) a legal right to make back-up copies and to install copy-protected software on their hard disks. Like the "protectionists," they too decry software piracy. Copy II PC (Central Point Software Inc.), and Disk Mechanic (MLI Microsystems) are examples of commercial copying programs which can remove or circumvent copy protection on a wide variety of programs.

The public domain contains programs that either remove, or provide information for removing copy protection from a variety of application programs with DOS's DEBUG utility. These programs vary greatly in how easy they are to use. Copy II PC also copies and compares unprotected diskettes using one command as compared with two DOS commands (DISKCOPY and DISKCOMP) to perform the same operation.

The Utility Every User Needs

Sooner or later, you will erase a file that you did not mean to delete. When you use DOS to erase or delete a file, it is simply marked for deletion. The first character in the file name is changed in the File Allocation Table (FAT) so that the name is no longer displayed. The space that was allotted to the file becomes marked as being available to accept new information. If you discover that you have mistakenly deleted a file you may be able to unerase it if you have an appropriate utility. QUICK UNERASE made Peter Norton rich and his collection of utilities famous. This little program alone is worth the full retail price of the collection. (This is an endorsement.) The collection of Norton's Advanced Utilities not only contains more than the standard Norton Utilities, but it is easier to use because you can issue commands interactively from within the menu-driven NORTON INTEGRATOR program (NI.EXE).

So many utilities for hard disk and file management exist that several firms have bundled their creations into "Swiss-Army knife" collections. Some of the better-known commercial collections are: Norton Advanced Utilities (Peter Norton Computing, Inc.), PC Tools (Central Point Software, Inc.), and Mace Utilities (Paul Mace Computing, Inc.). In the user-supported realm there are: Nathan's Utilities, and Baker's Dozen. Almost every utility collection has an undelete command. Variations are in the public domain. Programs vary in how easy they are to use and how much help they give you. Every user should have an unerase utility.

One caution applies to all unerase utilities: You must unerase a file immediately after deleting it. Otherwise new information can be written in the now-unallocated space the deleted file occupies.

Utilities That Enhance System Performance

You can find utilities to enhance the performance of every type of hardware you have and to protect the system as a whole.

Hard Disk Optimizers

As you erase unwanted files and create others, DOS fills in the gaps on the disk as compactly as it can. Over a period of time, the result is that many files become "fragmented." That is, one file may be spread out over many non-adjacent sectors on the disk. When a program searches for a fragmented file, the search takes longer than if all its pieces are next to each other. It is difficult to notice the decrease in hard disk performance from one day to the next, but if you have noticed that your hard disk seems to operate slower than it did when it was new, you are probably right. Putting the files in adjacent clusters will restore the lost performance. The tool that performs this miraculous feat is a utility that "unfragments" or "optimizes" the hard disk. DISK OPTIMIZER (Soft Logic), and SPEED DISK (in the Norton Utilities) are widely recognized as reliable commercial programs for this purpose. Other programs exist in the public domain.

Safety Tip: Before using *any* optimization program, backup your entire hard disk in case anything goes wrong.

Screen

Utilities for your monitor include those that make the screen go blank, either to prevent image burn-in (the screen goes blank if nothing is entered for a preset time) or for security reasons when you are away from the workstation. Another screen utility offers a "fake" or "supervisor mode" which allows you to play a game, then when the supervisor walks in, you press a hot key and redisplay a spreadsheet or document you are "working on." Half the fun is in not getting caught! ►

Keyboard

If you stroke the keys faster than your computer can keep up, you can benefit from creating a larger "buffer" (temporary holding tank in memory). Some word processors let you reset the buffer size.

Keyboard speed demons may also want to use the fast Dvorak keyboard layout. The ubiquitous QWERTY keyboard (named for the letters in the upper left corner of the keyboard) was reportedly designed in the early days of typewriters for the purpose of slowing typists down. The problem was that typists struck the keys so fast that often the levers which fling letters against the paper would lock together. Today, computer consoles operate with switches underneath the keys instead of levers, so the mechanical problem no longer exists and the action can be faster.

Almost every typist learned to use the slow, QWERTY layout. There are much faster keyboard layouts. The Dvorak keyboard (named after a person, not letter placement) places the most frequently-used keys on the home row under the strongest fingers. The least frequently-used keys are placed in the more farther reaches of the keyboard. It takes about a month for a typist to learn the new layout and regain the same typing speed. After that, typing speed increases dramatically. The Dvorak keyboard can be "installed" on your current keyboard by using a key reassignment utility such as SuperKey (Borland International). It changes which letter is sent to the computer when you press each key. (The meaning of the switch is changed.)

Other QWERTY keyboard users may want to reassign just a few keys--for example, to reverse the location of the Control and Shift-Lock keys on a PC keyboard for a "typewriter keyboard" feel.

Security-minded folks may want to use SuperKey to lock the keyboard to prevent unauthorized entry or snooping while they are away from the console. SuperKey also performs other security functions.

A public-domain utility allows physically-handicapped users to "hold down" the Control or Alt key with one keystroke, then execute the next keystroke. This is a very "handy" utility for someone operating the keyboard with one hand or a stick.

Printer

Do you want to print banners or spreadsheets sideways on a dot-matrix printer? SIDEWAYS (Funk Software) and a several public-domain programs can perform these tasks.

"Print spoolers" allow you to send a batch of files to the printer and continue to work in an application program instead of having to wait for printing to finish before returning to productive work. DOS's PRINT command is a memory-resident print spooler. Its limitation is that you must use it at the system prompt. Other spoolers can be used from within applications.

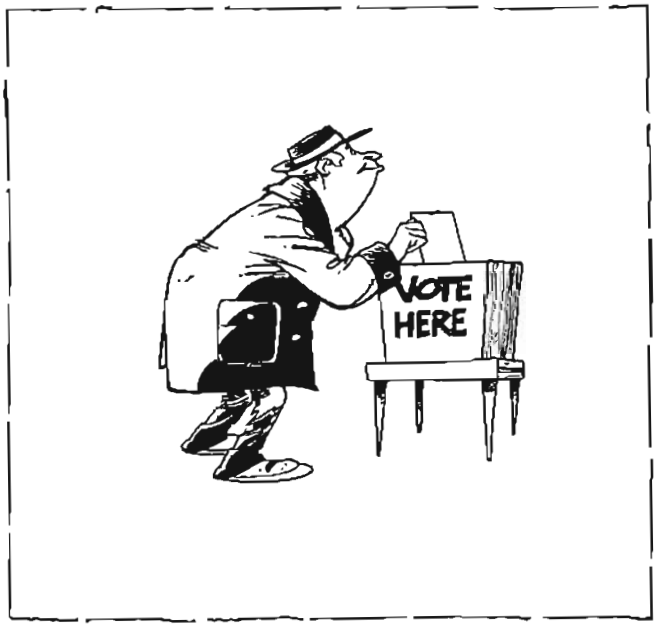
Does your software fail to send output to your printer? You may be able to obtain a "printer driver" from the vendor of either your software or printer. Microsoft (of DOS fame) also maintains a large library of drivers. (They may also have a mouse driver that will allow you to use a mouse with programs that lack "mouse support.")

Did you buy a PostScript printer to use with a desktop publishing package, and later find out that many of your other applications cannot print on it? Laser Tools Corporation's Trading Post is a RAM-resident utility that can bail you out! You do not have to purchase a second printer or additional software with PostScript printer drivers. Trading Post lets you use your existing software on PostScript printers.

Matt

...to be continued.

(In the conclusion of this article, Matt will continue his discussion about utilities relating to RAM disks, CPU's, systems, file protection, and application programs. Ed.)



North Texas PC Users Group, Inc.

P.O. Box 780066, Dallas, TX 75378-0066

Phone (214)746-4699 for recorded information about the User Group and meeting dates.

The North Texas PC Users Group, Inc., is a non-profit, independent group, not associated with IBM or any other Corporation. Membership is open to owners and others interested in exchanging ideas, information, hardware, predictions, and other items related to IBM Personal and compatible computers. To join the Group, complete the application blank printed on this page, and send it with $24 membership dues to the Membership Director whose address is shown below. A subscription to the newsletter is included with each membership. The Group meets once each month, usually on the second Saturday. See cover for date, time and place of the next User Group meeting.

Officers

President	Reagan Andrews, Ph.D.	(214)828-0699 h
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	Voice Mail	(214)931-4426
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Disk of the Month	Kathryn Crawford	(214)596-2539
Group Statistician	Connie Testa	
Volunteer Coord.	Connie Andrews	

NOTE: To access the BBS from outside Area Code 817, use Area Code 817. (This is NOT a toll call from Area Code 214.)

BULLETIN BOARD (817)461-0425 (Metro)
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Payment of dues, address changes, and inquiries about membership should be directed to

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P.O. Box 780066
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Special Interest Groups

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Do you want access to the Club Electronic Bulletin Board? YES [ ] NO [ ] Already Have [ ]

The NTPCUG expects and encourages volunteer participation by members in helping put on the monthly meetings at INFOMART. This usually consists of a few hours of your time each year. If asked, would you consider assisting the Group with one or more of the following activities:

[A] Working with NTPCUG Volunteer Committees?

Volunteer Areas from [A] above (Please check all that apply.)

[IR][ ] Information/Registration [NL][ ] Newsletter [FB][ ] Financial/Bookkeeping
[NL][ ] Equipment Setup [DM][ ] Disk of the month (DOM) [PR][ ] Publicity/Public Relations

[B] Giving a talk or demonstration to a small group?

[C] Giving a talk or demonstration to a large group?

[D] Being a volunteer, informal "consultant" in your area of expertise for NTPCUG members?

Would you be interested if the Group arranges instructional courses (at various levels) in any of the following areas at a cost per student of approximately $5/classroom hour?

(Please circle or specify, indicating level preferred, i.e., beginning, intermediate, advanced)

[A] Spreadsheet software – Lotus 1-2-3, Supercalc4, etc. (Please specify) _____
[B] Data Base software – dBase, RBase, Reflex, etc. (Please specify) _____
[C] Word Processing software – Word Perfect, Wordstar, etc. (Please specify) _____
[D] Integrated software – Framework, Symphony, etc. (Please specify) _____
[E] Programming Languages – APL, Assembly, BASIC, "C", Fortran, Forth, Pascal, (other) _____

Detach below for record of payment.

Applications should be mailed to: North Texas PC Users Group, P.O. Box 780066, Dallas, TX 75378-0066
(Make checks payable to NTPCUG)Dallas, TX 75378-0066

Payment: $ _____ Check No. _____ Date: ___/___/___ by: _____

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This is your membership card in North Texas PC Users Group. You will need it for identification at Disk of the Month sales, group purchases and other activities. This card is valid only for you, the person named on the label on reverse side. It is valid through expiration date shown on the label.

When trimmed, the card will fit transparent badge holders available at your stationers.

Wear your membership card while attending meetings and other functions of the Users Group.

Membership Card
North Texas PC Users Group, Inc.

This card valid only for individual named on label affixed to reverse side, only through year/month printed on the label, and only with proper identification.

Print Name: _____

Signature: _____

Trim card to wallet size.

Meetings & Times

9:00 AM - 10:00 AM **To be announced.**

10 - 11 AM and 12 N - 1 PM - TWO Presentations

Auditorium

*** Philippe Kahn, founder of Borland ***

PC Computing In The 90s And Beyond

Philippe Khan, the charismatic founder of Borland, will present his views of the future of software for personal computers in the 90s and the 21st century as the power of PCs and supercomputers come closer. Judging by his presentation at COMDEX, this should be a fascinating talk. A MUST-SEE EVENT!

Special Interest Group Meetings...

Scheduled SIG times could change. Check the Bulletin Board just before the meeting.
Check room numbers on the overhead display in the lobby at INFOMART.

9:00 - 9:55

Assembler
DOS
Hardware Solutions
Personal Users

10:00 - 10:55

CAD/CAM
Astrometry
Personal Users

11:30 - 11:55

Orientation

12:00 - 12:55

C Language
Communications
Personal Users
RBase
Stock Mkt Investing

12:00 - 1:55

Stock Market Investing

1:00 - 1:55

Business Applications
LOTUS
Personal Users
Turbo Pascal

2:00 - 2:55

Advanced Programmers
Cryptanalysis
DAC Easy Accounting
dBase Programmers

North Texas PC Users Group
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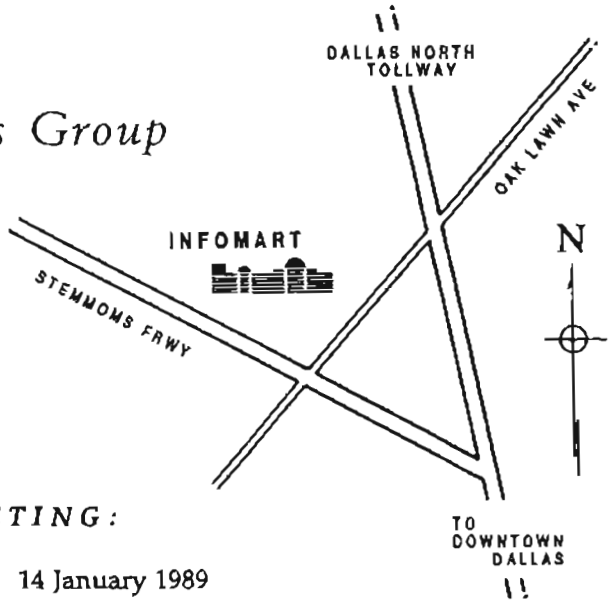

NEXT MEETING:

14 January 1989