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*North Texas PC Users Group*

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February 1986



**North Texas PC NEWS**  
(STARMAIL ADDRESS 51563)

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**Deadlines:**

All material for publication in North Texas PC NEWS (articles and ads) must be received by the NEWS staff no later than the fourth Friday of the month prior to publication.

**Articles:**

Column width of articles is not critical, but please do not right-justify the copy. Article submission is preferred by modem (817-275-4109 or Startext 51563), or disk in ASCII format, unjustified. If you send a disk, please include a printed copy of the article to assure accuracy. Double spaced, typewritten copy is acceptable but must be received a week before the deadline.

**Circulation:**

North Texas PC NEWS circulation is 795. Member distribution is 634; remaining copies are distributed to PC user groups around the country, and to advertisers, prospective members and others with common interests.



The deadline for the next issue of North Texas PC NEWS is February 28th.

...from the Editor's desk.

**Writers:** Thanks to the writers who submitted articles this month. I was not able to get them all in this issue, but rest assured, they are appreciated, and are on the front burner for publication in March. As a matter of fact, it feels kinda nice to have a backlog... first time, I believe. Keep them coming!

**Election Results:** Jim hoisington was elected to the office of President-Elect, and Dick Barr, Jim Janeway and myself were elected to the Board of Directors.

**Hard Disk Purchase:** The group purchase has finally reached fruition thanks to Stuart Yarus and Newton Hunt. An order blank is included in this issue of PC NEWS. To be eligible, you must be a member of NT PC Users Group. If your membership has expired, or if you want to join the Group, fill in the membership application blank on back of the order and include a separate check for your dues.

**TANDY 3000 DEMO SET FOR FEBRUARY 8**

The Tandy 3000, newest member of Tandy's growing family of MS-DOS micros, will be the star of Daltrug's main meeting at Infomart on February 8. Tandy showroom manager Bob Garrett, along with members of Tandy's design staff from Fort Worth, will demo the 3000 and answer audience questions about this affordable AT-compatible from 11:00 AM until Noon. Following the formal presentation, Tandy's second-floor showroom at Infomart will be open to permit local users to get their hands on a 3000.

The 3000 uses MS-DOS 3.1 and the multiuser XENIX 5.0 operating systems. Standard configuration includes an 8 MHz 80286 processor, 512K (expandable), 1.2 meg floppy, serial/parallel adapter, and ten expansion slots for option boards. All software for the PC, XT, and AT will run on the 3000. The standard 3000 sells for \$2599. A 20 meg hard disk version is \$3599. Daltrug President Howard McCalla invites anyone interested in the Tandy 3000 to visit the presentation February 8 at 11:00 AM.

John McGinty



**President's Corner**

Well, it appears that Stuart has started a tradition, and for the next twelve months I've been blessed (?) with the honor of inflicting myself upon you in print. For those of you who missed the last meeting (or quietly slunk toward the door when we announced it was business time), I'm Jim Graham, and I'm the new president.

In the last twelve months, we as a group have gone through a lot of changes, and we've suffered the pains common to any organization that doubles it's size in a twelve month period. However, thanks to the concerted (for the most part) efforts of a great many people, we're on the right track. Once again we have been fortunate (or is it bright?) enough to elect an outstanding group of people who really want to work to improve and expand the group. I think we can look forward to another exceptional year.

I'd like to add a personal word of thanks to two other people that I neglected to mention

at the last meeting, Reagan Andrews and Bob Russell. These two helped to make up the nominating committee and were instrumental in helping to contact and convince people that being elected for a year was not equivalent to being sentenced for a year. P.S. - I never believed the rumors that certain people volunteered for the nominating committee to insure that we could fill all the slots with someone else.

As a final note, I'd like to extend a thank-you from both the past and present officers and directors to those who have helped us - from an hour in a booth, to coordinating a SIG. We're all in this because we want to be, and 1986 is going to be a banner year. If you've got a suggestion, we'd love to hear from you, drop it in the mail, grab one of us at a meeting, or give me a call. Until next time

- Jim

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C								C
R	ATTENTION IBM PC-Jr OWNERS							R
C	Add a 2nd Disk Drive (complete unit							C
R	with controller and Software) \$275							R
C	Controller & Software Alone				\$109			C
R	Serial Port Cables				\$15			R
C	RGB Monitor Adapter Cables				\$15			C
R	TV Adapters				\$25			R
C	PC-Jr Carrying Cases				\$25			C
R	Technical Reference Manual				\$35			R
C	Old Style Keyboard Overlay Pkg of 5/\$1							C
R	Multifunction ad on's with parallel							R
C	Port, Clock & 512K Additional Memory							C
R	(to be available soon at about \$250)							R
C	COMPUTER RESET							C
R	PO BOX 461782							R
C	Garland, Texas 75046							C
R	Voice (214) 276-8072 (10am - 10pm)							R
C	BBS 272-7920, 300bd, 8 bits, lsb, no par							C
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**Giga Bits and Mega IPS**

by Fred Williams

Late last fall Intel announced the 80386, the next chip in the 808x family. It is Intel's long awaited answer to the 68000 line of 32 bit Microprocessors. The fact that it has a 32 bit architecture is almost secondary to some of the additional innovative design features which have been incorporated in this new chip.

Since this is being published in a newsletter which reaches all levels of PC users, I will attempt to keep this discussion on an ever increasing technical level. That way you can "bail out" anytime you feel like you're reading a less than intelligible foreign language. Hopefully before you begin to flounder on the technical gobbledygook, you will learn something of value about the new 80386.

All the information contained in this article has been gleaned from various Intel

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publications related to the new 80386 and a few articles not published by Intel. The "how great it is" information is from Intel. Also, any predictions are not mine. As I have said before, anyone who predicts anything in this industry will invariably be made to look the fool.

So you're already asking, "how is this going to effect me, the average PC user?" A fair question. Don't worry, you are not going to immediately be made to look like you're using a turkey quill to compose Sanskrit while seated at your current PC. That will come later, but sooner than we think. The new chip is so powerful it will begin life in the fast (designer?) lane of the PC industry. Odds are someone will have a personal computer system based on the 80386 before you do, but odds are he won't need it any more than you do. This pretty much holds to the the Mercedes and Porsche philosophies.

The 80386's design lends itself to applications which require very high performance multi-tasking operating systems. The chip's addressing capabilities also dictate its use where very large programs and data bases are common. It is felt that the initial systems based on the 80386 will be true mini-computer replacements and probably spawn a new class of computer power, the "desk top mainframe". These systems will be used as the first truly viable Intel chip based stand alone multi-user systems and as very powerful file servers in a LAN environment.

A couple of other applications that will benefit from the 80386 are imaging and graphics systems, and voice recognition and synthesizing. Both of these applications can use the increased processor performance and the greater memory addressing ability. The imaging systems will be able to offer higher resolution and quicker transformations. The voice systems will be able to increase the quality of computer generated speech and greatly improve voice recognition.

And let us not forget the old number crunching gang! They're still very much around, and still delight in doing all of those old number crunching tricks like: solving for pi, computing the largest prime number in history, and simulating the destruction of the world. Heady stuff that scientific computing, eh? The new 80386 will still take advantage of the numeric co-processor (80287 or 80387) arrangement that has been standard with all of the 808x line of chips. So, the good old boys will have more horsepower to build and digest even bigger arrays than previously possible.

The chip specifications are what lead us to make such powerful predictions about the 80386's future. I'll touch on the higher points of the chip design now and attempt to explain the obscure ones and their advantages later. By the way, the 80386 is object code compatible with all previous 808x chips, all the way down to the lowly 8088. This means you will probably be able to keep your current favorite version of what ever software it is that you just can't live without. In addition to being object code compatible with the 808x, the 80386 chip has a Virtual 8086 Mode which allows the concurrent execution of multiple 8086 applications. While operating in the Virtual 8086 Mode, the 80386's task protection mechanism, which is covered later, is in full force.

The 80386 has true 32 bit architecture. This means that all parts of the chip are designed to fully support 32 bit data paths. All operations are performed on 4 bytes of data versus 2 bytes (16 bits) on all of the previous 808x chips. The 32 bit design also greatly increases the memory address space for both real and virtual memory. The 80386 will directly address 4 gigabytes of physical (real) memory and 64 tetra bytes (2 to the 46th power) of virtual memory. Tetra? Let's see, is that a kilo-giga, mega-giga, or giga-giga? Oh well, it's 64 followed by a whole bunch of zeros.

For the COBOL programmers, the maximum program segment size is now 4 giga bytes. That ought to last about a week before some newfangled programmer starts complaining about running out of memory. I'm a firm believer in the hypothesis that all programming efforts expand to exceed available memory, no matter what the task or available memory sizes are; much as work expands to fill all available time. Systems analysts and managers know too well what I'm talking about.

Sheer physical buss width and clock speeds (12.5 and 16 MHz) lend a great amount to the 80386's performance increase over the previous chips in the family. The chip's buss bandwidth is a staggering 32 megabytes per second. But, there are less obvious chip design features which contribute greatly to the unbelievable sustained 3 to 4 million instructions per second performance Intel's literature claims is possible.

Warning! Warning! All non-techies, if you're still with us, it is about to get deep.

The more sophisticated design features on the chip help the overall processor design take the maximum advantage possible of both the

(continued on page 6)

From The Program Chairman - Charles Kroboth

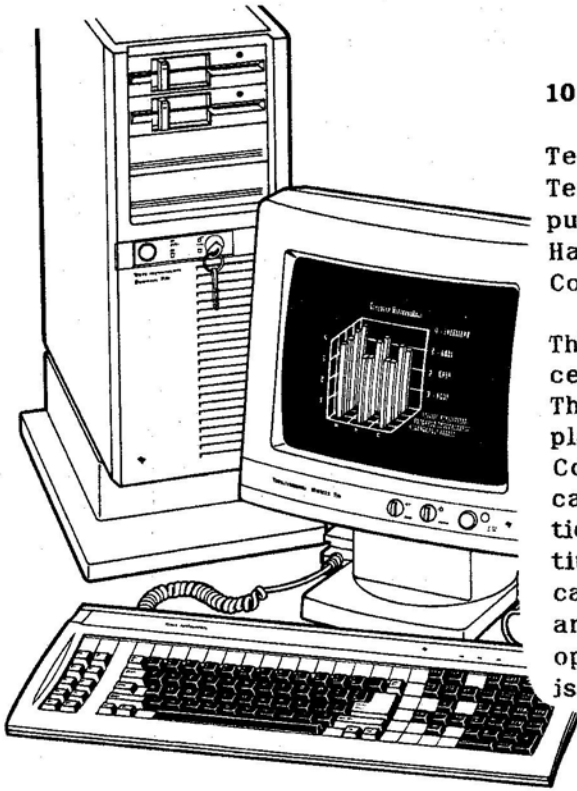
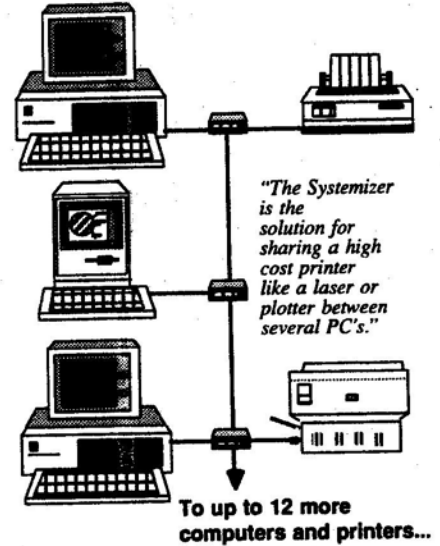
# FEBRUARY PRESENTATIONS

9:00 AM

## \* Systemizer / Optimizer \*

Gerry Mecca of Applied Creative Technology will be discussing their line of computer printer products. These include the Printer Optimizer, the Systemizer, the Buffer Box and a computer adapter for the IBM Electronic Typewriter.

The Printer Optimizer is a printer and modem control center. It offers data spooling (using 64k to 1 Meg buffer), the ability to connect several printers and modems to a single computer - without extra adaptors or software, as well as the ability to modify or filter out data passing through it. Another product, the Systemizer, allows several PC's or CRT's to share one or more printers. The Buffer Box is a low cost, full-feature printer buffer. There is even a box that adapts the Hewlett Packard LaserJet to various computers and word processing systems.



10:15 AM

## \* The Business-Pro \*

Texas Instruments is sending two engineers from Austin, Texas to demonstrate their newest professional computer, The Business-Pro. Roger Tipley, from the Hardware Design Group, and Mani Ayyar, a Software Compatibility specialist, will field your questions.

The Business-Pro is based on the Intel 80286 microprocessor and thus offers high-performance processing. The system features a high-resolution, bit-mapped display and compatibility with either the TI Professional Computer family or the IBM PC AT. The Business-Pro can be used as a high-performance single-user workstation, a local area network server, or a clustered multi-user system. Main memory starts at 512 kilobytes and can be expanded to 3.5 megabytes without having to use any of the system's eight full-size or six half-size option slots. Maximum memory utilizing the option slots is 15 megabytes.

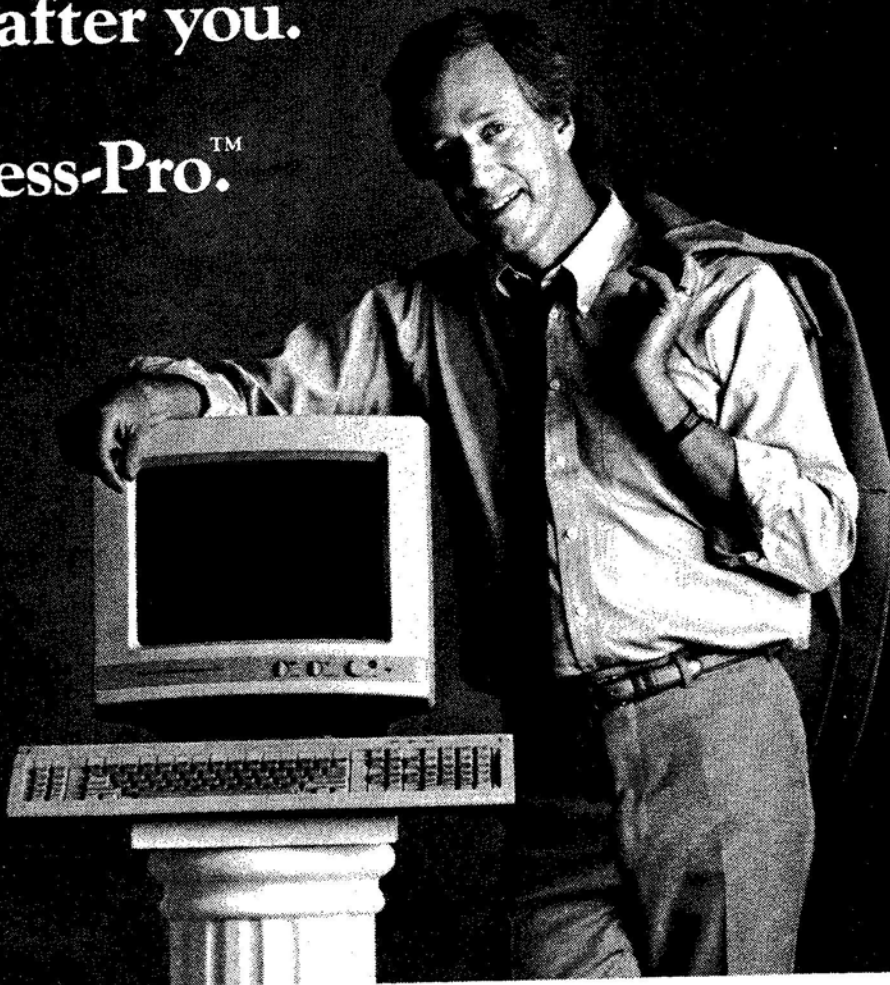
----- COMING ATTRACTIONS -----

March & April

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\*"TI Business-Pro" by Michael J. Miller, pages 79-84, September 1985, *Popular Computing*.



## Disk of the Month

By Walton Grayson, IV

The February Disk of the Month is ACCUTAX, a shareware program for individual 1985 Federal Income Tax preparation. See review below.

PD0062 is a demonstration of the APL language provided by STSC, Inc.

LT0015 & LT0016 cover LETUS A-B-C data base for the 3rd quarter of 1985.

### Software Review: AccuTax by Stuart Yarus

AccuTax is a new shareware program from AccuSoft, located in Kansas City, Missouri. This program calculates individual Federal Income Tax for the (calendar) 1985 tax year, and can print the necessary forms and schedules. Besides the 1040, AccuTax supports Schedules A, B, C, D, E, G, R, SE, W, and Forms 2106, 2441, 4562, 5695, 6251. In addition, 13 worksheets supporting particular lines are included and the user may select a number of additional blank worksheets to support the lines of his choice. The registration price is \$35.00 and entitles you to support and a reduced price for the 1986 version. The version being reviewed is V 1.1.

The main program and its supporting files all fit on one distribution diskette. Multiple sets of returns can be saved on one data diskette. Programs and data can be saved on a hard disk. Not yet having a hard disk, I could not test this option.

The first thing you should do (after making a backup) is to print the file called STARTUP. This is a short set of instructions which shows how to print the doc, register your copy (if you find it useful), and start the program.

As is usual with shareware, documentation is provided on the distribution diskette. This documentation can be printed very easily by following the instructions. Printing the doc takes about 65 pages, and here we find the first bug. Form feeds are not placed correctly within the file; that is, some pieces of printed doc contain mostly blank space while elsewhere up to three pieces of printed doc contain run-on paragraphs. This is hardly severe, but is moderately annoying.

One of the features of AccuTax is a pop-up calculator, similar to Sidekick. The calculator has an optional feature to return the result to the line of the Form or Schedule from which it was invoked. Unfortunately, I was unable to get the calculator to work at all (although I only spent about 5 minutes trying).

One particularly nice feature is instant recalculation of the "bottom line" - the balance due to or from the IRS - as soon as any change is made to a line of the current Form or Schedule. The balance is always displayed at the bottom of the screen. The recalculations (in my testing) seems to be well under one second, as you might expect from a compiled program.

Ten boxes are displayed at the bottom of the screen to indicate which function keys are operative for the currently displayed Form or Schedule. Each box has a key word to indicate the appropriate function, much as Microsoft's BASIC does. Unused function keys are indicated as such with a blank field. The function keys are the means of passing control to and from various Forms and Schedules, invoking the calculator, calling up supporting schedules and worksheets. The bottom of the screen also shows which screen number you are at in the current Form or Schedule, and whether you are in Capslock, Insert mode, or Numlock. The top of the screen shows the name of the current Form or Schedule and the date and time stamp. The time stamp is updated each minute whether or not you are using the program.

Data entry is by windows within full-screen displays. Each window is highlighted by reverse video when the cursor is inside it. Each form is a model of the appropriate IRS Form or Schedule, and the user is stepped through the form one window at a time. At any time, you may go to a supporting form or worksheet by pressing a function key. This feature is very well done, and is a highlight of the package.

The documentation says that you can submit the printed forms directly to the IRS. Since the IRS publishes the specifications for the forms, and since the specs are VERY precise, I would first check the IRS specs before sending in copies of AccuTax forms. It is YOUR return...

A more serious problem is a rounding bug. Sometimes several numbers give a total one or two cents different from the actual total, and sometimes you cannot force the correct number without having incorrect detail. This problem appeared only on supporting worksheets, but could occur elsewhere, no doubt.

A number of special worksheets are supported, such as short- and long-term capital gains, ACRS listed and non-listed property, rent/royalty income, and estate or trust income. State tax calculations are not supported.

On the whole, I am favorably impressed with AccuTax. The true test is that I am using it to calculate my 1985 tax, although the numbers will be checked for the rounding problem. The program is a good planning tool.

Stuart

**Giga Bits and Mega IPS**

(continued from page 2)

large buss width and high clock speeds. Use of on-chip high speed cache memory to increase virtual memory paging performance and instruction pipelining is the single most significant feature. The cache memory areas are made up of zero wait state static ram and are used to greatly reduce the average time required to fetch the next instruction or data.

An on-chip Memory Management Unit is designed to hide the time it takes to translate from logical to physical addresses. This design feature is unique to the 80386 and is not possible on other 32 bit chips, as their MMU is located on a separate chip. The on-chip MMU allows the cache to use physical addressing, thus preventing the need to completely flush cache memory after each task switch or interrupt.

Speaking of task switching, let's check out the 80386's multitasking design features other than the previously mentioned cache design. The 80386 has an even better implementation of the "protected mode" architecture first introduced with the 80286. The protected mode provides virtual addressing, hardware assisted task memory protection, and use of special instructions optimized for supporting multitasking operating systems. All of these features add significantly to the multitasking capabilities of the 80386 design.

The 80386 has an improved segmentation memory management scheme. All information relating to a memory segment resides in an 8 byte data structure referred to as a descriptor. These descriptors may be stored in any one of three types of descriptor tables: global, local, or interrupt. The segment descriptors contain attributes related to a given region of linear address space. The segment's attributes include the segment's linear address, the protection level, read, write, or execute privileges, the default size of operands (16 bit or 32 bit), and the type of segment. There are two main categories of segments: system segments and non-system segments.

All non-system segments are code and data segments. System segments are Local Descriptor Table Descriptors, Task State Segment Descriptors, and Gate Descriptors. All of these system segments are used to provide information related to operating system tables, tasks and gates. Whew! This is getting a little deeper than I want. So, if you want to know more, please contact your local Intel office for more information related to protected mode and privilege levels.

One thing I did want to cover though was the use of the Task State Segment descriptor

and the special task switch instruction used to switch tasks. These features allow the 80386 to switch tasks in about 17 microseconds. The TSS descriptor points to a segment containing the entire 80386 execution state for each task. The current active TSS is identified by a special register called the Task State Segment Register. The task switch instruction controls the content of this TSS register. Task switching is managed by the 80386 and is transparent to the average programmer.

Something that should also be mentioned is the debug features which are built into the 80386's base architecture. The three major types of on-chip debugging aids are software breakpoints, single stepping ability, and the implementation of 8 special debugging registers. The debug registers provide the ability to specify up to four breakpoints which may be set for either instruction breakpointing or data access breakpointing. Two of the eight registers are reserved by Intel and the last two provide breakpoint control and machine state information.

The 80386 chip carries forward the high level of system and task protection first implemented on the 80286. This security mechanism is patterned after the Honeywell MULTIX system. MULTIX is a highly secure system based on "rings" of privilege with the innermost ring being the most secure or privileged. Each task is assigned an initial privilege level and may only increase its privilege level if so allowed by a task of a higher privilege level. One of the major differences between MULTIX and the 80386 is size. MULTIX is based on Honeywell's top of the line mainframe, a basketball court filler.

The 80386 protection mechanism provides a very high degree of hardware enforced task security. This insures individual tasks a very high degree of security from other tasks in a multitasking environment. The rings of privilege prevent the intrusion of an errant task (read junior programmer testing or intentional covert meddling) on other tasks or the operating system kernel. A study done by the Department of Defense rated the MULTIX system the most secure system on the market.

With this latest chip, the ability to implement a very secure VM (Virtual Machine) like operating system is very much a reality. This means that a 80386 based system could currently support several users each running his own operating system MS-DOS, PC-DOS, UNIX, etc. as if he were the only user on the system; or a single user could crunch enormous amounts of numbers at previously unheard-of speeds while composing a memo based on the just completed spreadsheet which justifies additional expenditures related to his current research project.

Fred

A



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 437-9119



## Hard Drive Product Information

SEAGATE 20 Mb 1/2 height, quiet, reliable and rugged. 80ms, formats to 20.5 Mb. Hard to get at this time. One year warranty.

TULIN 20 Mb 1/2 height, quiet, very reliable and rugged. 85ms, formats to 22 Mb. Easier to get than Seagate. Warranty is for one year.

TULIN 30 Mb 1/2 height, quiet, very reliable, NOT for portables. 85ms, formats to 33 Mb. Best 1/2 height 30 available. Warranty period is one year.

TULIN 30 Mb 1/2 height for AT, very nice, quiet, 40ms access time, formats to 33 Mb, does not need additional controller card for AT. Warranty is one year. Does not come with a controller card.

IRWIN 110D internal streaming tape backup uses existing floppy controller card, uses DC 1000 10 Mb cartridge (about \$17), image and file by file. Backup 20 Mb in 12-15 minutes and a file by file in 25 minutes or a little longer. Menu or command driven. Will do incremental backups. Warranty period is one year.

TEAM-MATE puts 25 Mb on one tape, uses cassette cartridge, comes with its own controller card so it uses up one slot. Backup 20 Mb in 5 minutes or less in image and will do file by file. Menu driven software. One of the very best. Warranty period is one year.

FASTBACK is a backup utility that formats disks and stores 480K of data in 14 seconds per disk (subdirectories will slow it down some). It keeps a separate directory file of files backedup from which individual files, sub directories, or wildcards can be chosen for a restore and FASTBACK will indicate which disk to put in the drive. Menu driven with online help, does incrementals. An inexpensive, viable alternative. 20 free 360k disks offer or 10 1.2 Mb disks.

BOURNOULLI boxes use 8 inch 10 Mb cartridges in two (for 20 Mb) drives in an external case that requires a host card that is brand and model dependant. The Bournoullis have removable media, are rapid accessors and have their own power supply. Warranty period is one year.

MOUNTAIN hard cards are super easy to install and seem to be reliable, because of width require a slot and a half of space. Warranty is one year.

Controller cards come medium (2/3 the length of a full-length card) or long. If you have an XT or portable the short is best. The medium length card should fit all others. TI and Tandy owners may need to get their own card. XTs with hard drives and ATs may not need an additional card.

External drives will require a slot but have their own power supply and will take a full height or two half height devices.

Tape backup and hard drives cannot be mixed externally at this price because of cabling problems but CAN be mixed internally.

Power supplies are the better, imported, 135 watt units with near zero power rise time and having very quiet fans. Replace only the old 63 watt power supplies.

All of this equipment is easy to install and format. If you haven't done it before just follow the instructions and you cannot go too wrong. If you do not feel comfortable, then it can be done for you.

One of the ROM BIOS chips on old PCs will have to be changed to make them self booting. These may be had at any IBM dealer.

A warranty and service policy statement will accompany all hardware purchases.



**Hard Drive Order Form**

Please read EVERYTHING carefully. Product descriptions are on opposite page.

	Qty	Price	Total
20 Megabyte Seagate ST 225 1/2 height	-----	\$ 439	\$ -----
The same but without controller card	-----	\$ 325	\$ -----
22 Megabyte Tulin TL 226 1/2 height	-----	\$ 449	\$ -----
The same but without controller card	-----	\$ 338	\$ -----
33 Megabyte Tulin TL 240 1/2 height	-----	\$ 595	\$ -----
The same but without controller card	-----	\$ 525	\$ -----
33 Megabyte Tulin TL 340 1/2 height 40ms for ATs	-----	\$ 689	\$ -----
10 Mb internal Irwin 110D tape backup 1/2 height	-----	\$ 475	\$ -----
25 Mb internal Team-Mate tape backup	-----	\$ 585	\$ -----
Has its own controller.			
External hard disk please add to above choice	-----	\$ 100	\$ -----
External tape backup please add to above TAPE	-----	\$ 200	\$ -----
The two above will require a slot each.			
Fastback (extremely rapid backup utility to floppys)	-----	\$ 90	\$ -----
Power supply (only needed for old 63 watt PCs)	-----	\$ 75	\$ -----
Bournoulli 20 Megabyte (two 10 Megabytes units)	-----	\$2350	\$ -----
+ PC, XT, AT adapter card	-----	\$ 130	\$ -----
+ PC, XT auto boot adapter card	-----	\$ 260	\$ -----
+ TI adapter card	-----	\$ 199	\$ -----
Hard card 20 Megabyte by Mountain	-----	\$ 895	\$ -----
Subtotal			\$ -----
6.125% sales tax			\$ -----
<b>TOTAL OF CHECK ENCLOSED made out to NT IBM UG</b>			<b>\$ -----</b>

Please specify make, model and age of computer(s).

Make \_\_\_\_\_ Model \_\_\_\_\_ Age \_\_\_\_\_

Controllers are Western Digital WD 1002S-WX2 (medium) or OMTI 5510 (short) please specify your choice by entering M or S. No choice will result in a long card.

Please check here if you will need installation HELP which will be available on March 15 for \$25 PER DRIVE to be paid to installer. Bring CPUs only, no keyboards or monitors.

Prices could change, this equipment is going up, not down. Any adjustments will be collected at distribution point. Checks MUST be received by March 1 or they will be returned to sender. Pickup and/or installation will be on March 15 at the regular meeting. Check March meeting notice for room numbers and times. Installation instructions do accompany equipment.

Reasonable effort was made to acquire a responsible, cooperative, experienced, and concerned supplier who provides value, quality and service. Even though this is a group purchase the individual is responsible for his own equipment. Any and all agreements are between that supplier and the individual buyer. Neither the Users Group nor the committee members may be held responsible for damages or losses incurred through this procurement plan.

If not a member or membership not current, dues of \$24.00 MUST accompany order.  
(Complete membership application on reverse side of this page.)

Membership expiration date \_\_\_\_\_  
 Name \_\_\_\_\_ Signature \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Work phone \_\_\_\_\_ Home phone \_\_\_\_\_

Send form and check to: NT IBM UG - P. O. Box 780066 - Dallas, TX 75378-0066



# Membership Application

North Texas IBM Personal Computer Users Group

The North Texas IBM Personal Computer Users Group is a non-profit independent organization, not associated with the IBM Corporation. The Group meets monthly on Saturday at INFOMART™ on the date published in the newsletter. The first visit you are our guest, thereafter we invite you to be a member and support the group with annual dues of \$24. The newsletter, **North Texas PC News**, is published by members for their use and is mailed to members during the week preceding each meeting. Membership in the NTIBMPCUG includes a free INFOMART™ pass (InfoCard™).

If you are interested in being a part of the North Texas Personal Computer Users Group, complete the following information and mail to the address listed below.

circle one: New / Renewal

Name \_\_\_\_\_  
first initial last

Address \_\_\_\_\_  
\_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone home (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ Metro? y / n

work (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ Metro? y / n

Circle the number where you prefer to be called.

Do you want your name included in member address listings sold (for benefit of the group) to advertisers of IBM PC software and accessories?

\_\_\_\_ YES \_\_\_\_ NO If yes, sign or initial here \_\_\_\_\_

Areas of interest: (May check more than one)

- |                    |                         |                |                   |
|--------------------|-------------------------|----------------|-------------------|
| ____ (A) Games     | ____ (J) Utilities      | ____ (0) C     | ____ (5) PASCAL   |
| ____ (B) Music     | ____ (K) Statistics     | ____ (1) APL   | ____ (6) FORTRAN  |
| ____ (C) Graphics  | ____ (L) Data Bases     | ____ (2) BASIC | ____ (7) Assembly |
| ____ (D) Research  | ____ (M) Manufacturing  | ____ (3) COBOL | ____ (8) Other    |
| ____ (E) Business  | ____ (N) Communications | ____ (4) FORTH | _____             |
| ____ (F) Home acct | ____ (O) Other          |                |                   |
| ____ (G) Education | ____ (P) Investments    |                |                   |
| ____ (H) Geneology |                         |                |                   |
| ____ (I) Oil & Gas |                         |                |                   |

Membership Dues are: \$24.00/year--regular, \$12.00/year--full time students

Make check payable to: **N. Tx. IBM PC Users Group**

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For additional information call: IBM PC Users Group at 242-4187 anytime and leave message (answering machine).

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## Special Interest Program Reports

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### APL Language SIG

APL seems to attract unorthodox thinkers and encourage unusual thoughts, and so the usual format of the APL Language SIG meetings is that of a roundtable discussion covering a wild variety of topics of interest to those present.

Jim Fiegenshue, Leader  
HOME PHONE: (214)539-9281

### Artificial Intelligence SIG (A NEW SIG this month)

The first meeting of the AI SIG, proposed at the January meeting of the Advanced Programmer's SIG, will be held at the February meeting.

The proposed topics of discussion include: symbolic programming languages for the PC, inference engine construction, knowledge representation, expert systems, and natural language processing.

The AI SIG is open to all interested persons, whether they are AI professionals or merely interested in learning about Artificial Intelligence.

Jim Bender, SIG Leader  
HOME PHONE: (214)423-3470  
WORK PHONE: (214)343-7842

### Assembler SIG

At the January meeting the main topic was 3 short programs to generate sounds on the PC's speaker (1st half of Ch. 7 in the "Waite book" -- Assembly Language Primer for the IBM PC & XT", Plume/Waite). We covered manipulation of individual bits by logical operators (AND, OR, XOR) and rotate instructions (ROR & ROL), use of ports to communicate with peripherals, use of the stack (via PUSH & POP) for temporary storage, and use of the LOOP instruction to execute a series of instructions a set number of times. We also discussed 3 different timers (DMA, system clock, and speaker oscillator), and a simple random number generator algorithm.

At the February meeting we'll cover more programs to generate sounds (rest of Ch 7 in the Waite book), which will show us more ways to manipulate individual bits, a handy way to make cryptic codes actually readable, and a couple more math operators.

John Wolley, SIG Leader  
WORK PHONE: (214)739-9090

### BASIC Applications SIG

During the January meeting, several questions were raised including how to convert the date string to a single number, and how to turn off an error trap started with "ON ERROR GO TO XXX" statement. We also discussed the new Microsoft Quick Basic Compiler. Those who had used it were very pleased with it.

In the February meeting, the group will again field questions about BASIC language programming. Copies will be distributed of a sample BASIC program to compute the number of days between two dates, and to determine the day of the week for a given date. This program will be discussed at the meeting if time permits.

Herb Wilson, SIG Leader  
HOME PHONE: (214)235-3364

### Business Applications SIG

Dr. Robert Pierce, president of Dallas-based CompuMart, a national mail order seller of IBM and compatible micro-computers and peripherals, told the 30 attendees in January about the mail order business and how they can take advantage of it. He also enlivened the discussion with hardware highlights and some of the pitfalls facing both buyer and seller.

The main topic for February will be Local Area Networks (LANs). Ken Olson will share his LAN experiences. As VP of Computer Expertise, a Richardson-based VAR specializing in TI micros (now IBM compatible thanks to the Business Pro) as well as IBM compatibles, Ken uses a LAN in his business and has helped several clients set them up. He'll share the pros and cons of the systems he's worked with (as opposed to a sales demonstration of a particular system), and of LANs in general.

Per usual, we'll have a portable Compaq (8088, 256K, 2 floppies) on hand, if you have a program or application of benefit to SIG members. We'll run 'em as time permits. Bring a printer and cables if necessary.

Ed Fries, SIG Leader  
WORK PHONE: (214)783-8543

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## Special Interest Program Reports

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### C Language SIG

Neil Bennett demonstrated his C debug program at the January meeting. It is being written for the MIX C compiler. As we might have expected, like TRACE86, it not only is a powerful debugger but also has tremendous potential to be used to learn the C language. Although it is not finished, it is truly impressive, not only in speed but also in features. Thanks, Neil, for a very interesting program.

The February meeting will be devoted to a discussion of the use and misuse of C pointers. This is one thing that we all need to master before we really can feel comfortable with C. We are lucky to have two of our own experienced C users, Rex McNally and Jim Wroten, to lead the discussion.

Dr. Sid Nolte, SIG Leader  
HOME PHONE: (214)233-6178  
WORK PHONE: (214)995-3868

### Genealogy SIG

Version 3.0 of FAMILY ROOTS for the IBM PC has again been delayed, although the TRSDOS version was released in December and the Apple version is expected shortly.

The January speaker was again Mrs. Lucile Boykin of the Texas and Dallas History and Archives Department, Dallas Public Library. She formerly was head of the Genealogy Department of the library. She is especially knowledgeable in research tools, directions to take, things to look for, guideposts in research. You name it and Mrs. Boykin can tell you about it.

For the beginning researcher she recommends staying with the census records up until 1910. These records provide access to many other kinds of records, such as Bibles, deed records, and others. Obtain the death records, even if they are in foreign countries. These records will refer to many old records. They will include the parents of the deceased, his place of origin, and other information. Many states have indexes of their death records.

The American Geneological Periodicals contain a list of early U.S. Titles. Maps are another early resource, especially in the eastern United States. There is an Atlas of American History which contains a lot of early United States maps, and Civil War maps. The Atlas of the War of Rebellion Series is good to track someone around the Civil War period.

There are many, many additional references, too extensive to list in the newsletter. A 12-page list of references to RESOURCE MATERIALS IN GENEALOGY, DALLAS PUBLIC LIBRARY, was in short supply. Photocopies of this list will be available at the FEBRUARY MEETING of the GENEALOGY SIG. Be there to get your copy!

Minnie Champ, Leader  
PHONE: (214)341-6507  
Judge N. L. Linebaugh, Reporter  
PHONE: (214)350-1603

### Integrated/Spreadsheet SIG

Topics covered in last month's general Q&A session included the use of windowing products such as Topview and Windows, new releases of 1-2-3, Symphony, and Framework, availability of classes for training in these packages, and the use of extended memory boards. We also talked about the possibility of starting a new SIG or two that would be directed toward specific software packages, such as 1-2-3 and Framework. If anyone is interested in helping to get these off the ground, see me at the meeting.

To end the session, we had a demonstration of a "self-running" 1-2-3 spreadsheet that uses data entry macros and menu macros. These specialized macros allow an experienced 1-2-3 user to develop spreadsheets for use by those with little or no knowledge of 1-2-3 itself. This particular application calculates shipping charges via UPS or US Postal Service based on the packages weight and destination zip code as entered by the user.

This month we will take a look at a public domain program called AUTOMENU that creates customized menus you can use for starting up your various application programs or executing your most frequent DOS commands with a single keystroke.

I am also looking for anyone who has used Topview or Windows. If you know anything about either of these packages, drop me a message at Startext 113737 or see me at the next meeting. Thanks!

Jim Janeway, SIG Leader  
WORK PHONE: (214)349-0314  
StarText MC 113737

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## Special Interest Program Reports

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### Investment: N-Squared SIG

The January meeting was well attended. A discussion about the contents of the N2-BARRONS database was held. The N2-BARRONS database is a weekly database of over 130 statistics gleaned from the Market Laboratory pages of Barron's.

A number of short sales ratios were put on the screen and discussed. The validity of member shorting activity seems to have deminished over the last 3 or 4 years. Greg Morris showed ways to create different types of shorting indicators, including the "Floor Traders Shorts."

There was also a discussion of various interest rates and how the market reacts to changes in short verses long term interest rates.

The next meeting will be on February 8, 1986 at 12:30. We need more input from the attendees as to subject matter--bring your ideas.

Greg Morris, SIG Leader  
WORK PHONE: (214)680-1445

### Programmers SIG

The meeting began with a question and answer session with Doug and Nancy Woodward of SoftCraft, Inc. on their Btrieve file management system. This lasted some quarter of an hour and was followed by our typical free for all exchange of tips and rumors.

One member mentioned a 12MHz upgrade kit for the AT. This upgrade requires faster memory chips as well as a faster crystal, the kit sells for around \$500. This led to a discussion of 80386 rumors and a discussion of the 286/386 real and protected modes. Some members felt that the '286 protected mode was a failure and that the chip would continue to be used in its 8086-compatible real mode. Another member went out on a limb by claiming that he expects to see protected mode software for the AT by June of this year! The DOS changes necessary to support this advance will spell the end for .COM files.

Another member had good things to say about the Logitech Modula-2 compiler. He had purchased it after he got tired of waiting for the rumored Borland Modula-2 compiler (currently rumored to be due "sometime this Summer"). The price of this compiler has recently been reduced to \$90.

A show of hands was taken as to how many members would be interested in a proposed AI SIG. Many members expressed interest; you may well be able to find more about that proposed SIG elsewhere in this issue.

Carrington Dixon

### Science/Engineering Sig

We really had a nice turn-out for the demonstration by Micrografx of In\*a\*Vision. Thank you all for the attendance. How many of you went out and bought a copy? My company bought the upgrade package based on my response from the demonstration. We already were using PC-Draw by Micrografx.

You have always been told that "there is no FREE lunch". Well our PC environment does let us have "FREE software", and many sources of real cheap software, "FreeWare", and Public Domain programs. There are many sources of programs and data bases for the PC that are of interest to Science and Engineering. Science oriented bulletin boards and magazines provide opportunities for getting additional programs of interest. For the February meeting I am asking two friends of mine to join us and discuss the sources of software and data bases of interest to Sci/Eng PC users. At the same time, if YOU know of some sources, please bring your notes and join in the discussion.

I know that we will be discussing several things of interest to science-hobbies, so if you are interested in the Shuttle launches, Astronomy, or Ham radio.....then BE THERE!!!

Arlin B. Collins  
214/436-7697 (home, w/recorder)  
StarText MC: 124994

### Turbo Pascal SIG

In February, we'll discuss a Turbo source code debugger. To whet your appetite, it allows you to:

1. View your source code while debugging.
2. Trace the operation of your program statement by statement. ➤

## Special Interest Program Reports

3. Insert breakpoints, by procedure/function name or by statement number.
4. Examine (and change) global variables in your program, including strings, array variables, and records.

And yes, there ARE a few limitations, but all-in-all a very useful tool. Ray Quay pointed out this program that is currently available via CompuServe, and was written by a Dave Baldwin. If we can (and need to) obtain permission, we'll try to make it a DOM for March.

This is a type of program that certainly benefits from actual demonstration on a system,

yet a Compaq or similar portable is too small for a group as large as the Turbo SIG, and it is difficult to obtain the auditorium and a projection system. Bring any ideas you have with you!

The January meeting included discussions of several items from TUG-LINES, such as the undocumented CBREAK instruction for controlling the {SC} Compiler Directive, and how to discover or predict the stack requirements of a program (we don't know!).

Phil Chamberlain, SIG Leader  
HOME PHONE: (214) 243-5034  
StarText Mail Code 2606

### SWAP SHOP

Four lines free each month to members, otherwise cost is 15 cents per word. Mail ads to the Editor.

**TSC - TAYLOR SOFTWARE AND CONSULTING** Cost + 10% to members for all software and hardware. All major software, disks, monitors, printers, modems. Home phone (metro) 540-2075 after 5 pm - ask for Kevin.

**For Sale:** Time-sharing service provided on an IBM 1130. This is the wave of the future! Excellent rates! Call Stuart at 555-1234.

**WANTED:** Need 2 double-sided disk drives. Call Henry Shaw (817)451-0492.

**640K MEMORY UPGRADE KIT.** All memory on the mother-board without using a slot. Works with IBM XT, IBM Portable, & Compaq \$79. dBaseIII PLUS \$275. REFLEX \$20. CONCURRENT DOS \$40. Call 467-3430 or 368-6394

**IBM Mono Display \$170. IBM Mono Adapter \$150. 256K Quad board, serial port, parallel port, clock, ram disk & clock software, \$100.** Frank (214)824-5126.

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**INVENTORY CONTROL SYSTEM W/INVOICING** for IBM-PC Tandy 1000 and clones with 256K, two floppies or hard disk. \$250. Freeman Software. Ask for D.D. (214)270-0625.

**IBM-PC-XT-AT, R/S (Model III-IV) and Tandy 1000 computer systems.** Programming to your specific needs. Call and discuss your requirements. Freeman Software (214)270-0625.

**FOR SALE:** Okidata 82A dot matrix 80 column printer. Three months old. Bargain for \$175. Extra Ribbons. D.D. Freeman (214)270-0625 Garland, TX.

**Quadram Quadcolor II video board \$50.**  
New IBM software. 341-2906.

**IBM Graphics Printer for sale.**  
John Hawkins (214)221-1250.

I have a couple of 1200/300 baud Hayes-compatible modems for sale. They are Practical Peripherals 1/2 slot. If interested, call Jim at (214)931-8505.





-- HELP US!

The first meeting of the new board of directors and the new officers of the North Texas PC Users Group was held on January 16th. The many issues and ideas discussed left no doubt that this is going to be an exciting and rewarding year for all members of the organization. As I listened during the meeting, another thought struck me. "This year is going to whiz by before we know it. How are we going to get all these plans accomplished?"

Well, first of all, we will accomplish our goals through the outstanding leadership that has developed in the group. But because of the tremendous growth in our size and activities, a handful of people can no longer provide all the elbow grease themselves and hope to maintain what has been built, much less expand on it. Remembering my own experience of stumbling into this congregation of only slightly abnormal human beings, I know there are many of you who would like to contribute something more to the group than just showing up once a month, but you are still a bit anxious and unsure of how to go about it.

Congratulations! The last barrier to your spiritual fulfillment has just been overcome. No longer will you have to search out that nameless, faceless person in charge of whatever-it-is-you-think-you-would-like-to-help-with and beg them to let you do something. Instead, we would like to come to you

when we have a project or position that requires a warm body or two (and maybe even some basic intellectual ability, if your lucky).

At February's main meeting we will pass around some warm body applications to get your vital statistics and areas of interest. (For those bodies that look questionable, we may have to check your pulse. I wanted to require a complete physical for all WIC members, but Graham said no.) We will be putting this information on the NTPGUG membership database, so that when something comes up for which we need some extra help, we can use our little electronic playthings to locate those with interest in a particular area.

Please don't be shy. We promise not to establish a telemarketing SIG. The larger the pool of people we have to draw from, the better we can spread the jobs around so no one gets dumped on too heavily. You will always have the option of saying yes or no or can't this time, and we will always understand and respect your other commitments. This is your group, and I know we are all proud to be a part of it. I think all of us kind of get a kick out of doing a little extra once in a while, and hopefully this will allow you to do so without giving up half your life, your sanity, and your first-born child. From the board and the officers, thanks for what you've contributed so far, and we look forward to working with you even more closely during the coming year.

Jim Janeway

### PAWS FOR GREAT DEALS

#### BOARDS

If you haven't seen STB's newest monitor card, the Chauffeur, you've missed a real treat. At last there is a true monochrome graphics card. Just take your old IBM monochrome monitor (or any other hi-res TTL monitor) and plug it in. Colors appear in 16 shades of gray. This card handles most programs requiring color graphics adaptors without any trade-off in monochrome resolution. Chauffeur card w/parallel port ... \$285

#### NEW PRODUCTS

We now carry AT&T and ITT computers in both stores. For the regular PC-lover we have the AT&T 6300 or the ITT Xtra. For those who need greater speed, larger memory, or more advanced features, we have the AT&T Unix 7300 in the Lewisville store or the ITT XP, which is now in stock. We offer competitive pricing on both types of systems.

In the market for a second PC? Check out Epson's new MS-DOS compatible, the Equity One. Forget Valdocs, CP/M, and slow access time, this IBM compatible is a super bargain. Equity One 256k, 2 floppy drives ... \$1295 Equity One 256k, 20 meg hard disk ..... \$2195

#### PRINTERS

FX-85 ..... \$395 DX-35 LQ PRINTER ..... \$729 SQ-2000 INK JET ..... \$1775 LX-80 ..... \$250

#### SUPPLIES

Rainbow Packs - 200 sheets of colored paper ..... 7.95 (Bright green, red, yellow & blue) Pastel Packs - 250 sheets of one color ..... 5.95 (available in blue, yellow, green, pink, buff or gray)

EMS#5 DS DD SS DISKS ... \$17/BOX DISK NOTEBOOK SHEETS ... \$8.90/10 PK

#### TAPE BACK-UP UNITS

ALLOY MT25 (25MG) ..... \$925 BACKPAC PORTABLE (10MG) .. \$795 THESE UNITS PLUG INTO THE IBM FLOPPY DRIVE CONTROLLER AND NEED NO INTERFACE CARD.)

#### GAME CONTROLS

On the theory that there is no point in selling junk when you have a

really good product, we recommend the following joysticks:



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PC-11-85



**Room Assignments**  
**Saturday, 11 January 1986**

*Check room numbers in lobby at INFOMART*



**9:00 - 10:00**  
 Presentation by Applied  
 Creative Technology of  
 their line of computer  
 printer products.

<b>9:00 - 9:55</b>	Room
Science/Engineering	_____
Beginners	_____
Genealogy (w/Apple)	_____
Graphics	_____
BASIC Applications	_____

<b>9:45 - 10:10</b>	
Orientation	_____

**MAIN MEETING: 10:15 - 11:45**

Texas Instruments engineers from Austin will demonstrate their newest professional computer, The Business Pro.

<b>12:00 - 12:25</b>	Room
Orientation	_____

<b>12:00 - 1:55</b>	
Assembly Language	_____
APL	_____
C Language	_____
Turbo Pascal	_____

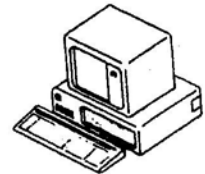
<b>12:30 - 1:25</b>	
Investments (w/Apple)	_____

<b>1:00 - 1:55</b>	Room
Artificial Intelligence	_____
Business Applications	_____
Communications	_____
Databases	_____
Eagle Computer	_____

<b>2:00 - 2:55</b>	
Advanced Programmers	_____
Integrated Software	_____



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

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Jim Graham, Chairman      Jim Hoisington  
Dick Barr                      John Pribyl  
Jim Janeway

The North Texas PC Users Group is a non-profit, independent group, not associated with IBM Corporation. Membership is open to owners and others interested in exchanging ideas, information, hardware, predictions, and other items related to the IBM Personal and compatible computers. To join the Group, complete the application blank printed elsewhere in this issue, and send it with \$24 membership dues to address 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.

Officials:

President	Jim Graham	(214)245-4763 w
President-Elect	Jim Hoisington	(214)245-0973 h
Program Chairman	Charles Kroboth	(214)245-4763 w
Treasurer	Joe Brophy	(214)343-9842 h
Secretary	- o p e n -	( ) -
<u>Membership Director</u>	Bob Russell	(214)422-4269 h
<u>Disk of the Month</u>	Walton Grayson, IV	(214)369-3535 h
<u>Public Relations</u>	Stuart Yarus	(214)867-8012 h

Special Interest Groups:

SIG Coordinator	Phil Chamberlain	(214)343-5034 h
APL	Jim Fiegenschue	(214)539-9281 h
Artificial Intell.	Jim Bender	(214)343-7842 h
Assembler	John Wolley	(214)238-9443 h
BASIC Applic.	Herb Wilson	(214)235-3364 w
Beginners	John D. Hall	(214)495-2375 h
Business Applic.	Ed Fries	(214)783-8543 w
C Language	Dr. Sid Nolte	(214)233-6178 h
Communications	Fred Williams	(214)245-4317 h
Databases	Chris Morgan	(214)245-4763 w
Eagle Computer	George Norwood	(214)620-9544 h
Genealogy	Minnie Champ	(214)341-6507 h
Graphics	Mike Durbin	(214)271-8779 h
Integ. Software	Jim Janeway	(214)349-0314 h
Invest - N-Squared	Greg Morris	(214)680-1445 w
Programmers	Dr. Neil Bennett	(214)422-5673 w
Science/Engr.	Arlin Collins	(214)890-6855 w
Turbo Pascal	Phil Chamberlain	(214)243-5034 h
<u>User Group Telephone (Answerer)</u>		(214)242-4187

Bulletin Board SYSOP:

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Payment of dues, address changes, and inquiries about membership should be directed to:

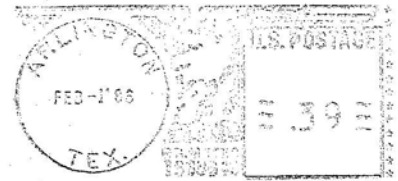
NTPCUG Membership Chairman  
135 Skyline Drive  
Plano, Texas 75074

Check newsletter mailing label for your membership renewal date. No separate renewal notice will be sent.



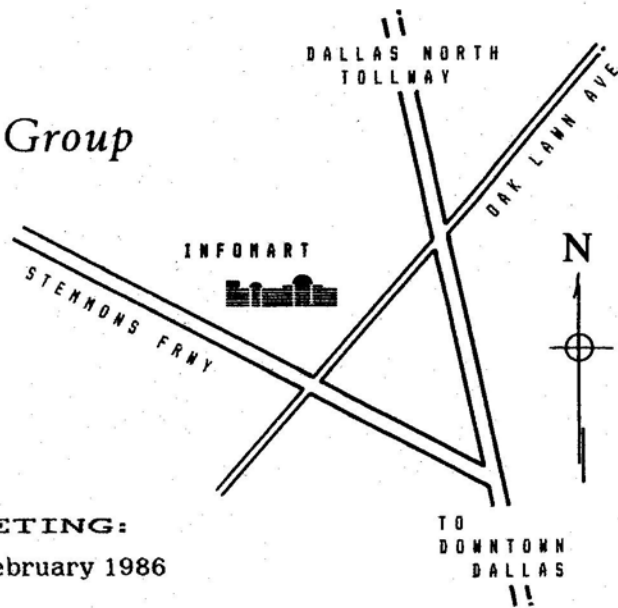
North Texas PC NEWS

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### North Texas PC Users Group



**NEXT MEETING:**  
8 February 1986