North Texas PC NEWS

June 1984

Vol 3 North Texas IBM Personal Computer Users Group No. 6

Special Interest Programs

Programmers

Jim Hoisington hosted last months meeting as chairman Neil Bennett was in Chicago. There was no specific program, instead we had a general discussion among those present. Among the topics discussed were: how to get software support from IBM (it's not easy; one member suggested that you can write IBM for assistance: IBM Personal Computer Assistance Center, 1000 NW 51st St., Boca Raton, Florida 33432 --- he had not written them at that time; so, there are no guarantees), DOS 2.10 versus 2.11 (the Country Code for foreign symbols is about the only change), various hardware rumors (will or won't the next IBM micro sport an Intel chip?), the announced but not yet seen Version-2.0 releases of FORTRAN and Pascal, and hard disks.

The June meeting will be in our standard, open topic, format. We can probably expect a short report on Neil's experiences at BYTE's Chicago exposition. IBM's new Version 2.00 releases of the FORTRAN and Pascal Compilers are now out, and some initial reaction from users of these programs may also be expected.

Carrington Dixon

Business Applications

J. Norman Goode will have some good advice on using your PC as a source of extra income. He will discuss pros and cons of consulting, word processing, information brokering, and software development. He will also talk about tax advantages of using a PC in a business of your own.

Mr. Goode, editor/publisher of Micro Moonlighter newsletter, is a nationally known author, lecturer and consultant. He is currently offering seminars in Dallas for people wishing to enter the "electronic cottage" industry.

Ricky Burke

Beginning Assembly Language

For IBM and TI PC

by Jeanne Pitz

Last Month at the Beginners Assembly Language SIG there were a number of people interested in taking a structured course in assembly language rather than a working session as the SIG group is intended to be. I have been wanting to develop such a course to present as an introductory college level course since last year but time and prior work commitments have kept me from it. It will be July before I could begin.

I feel the best way to approach this is to give a structured course separate but in conjunction with the SIG working session. The sig meeting could be best used as a debug/problem session workshop for anyone whether or not they are sitting in on the course.

I have developed an outline I think is workable (shown on pg 3). It is intended for the person with no previous experience at the assembly language level. My intention is to present the material at a fast pace in 2 hour sessions after the user group meeting for 4 consectutive months. Problems and programs would be presented at each meeting to be worked on until the next meeting. I feel this would be the most painless way to proceed for everyone concerned.

I will be at the next Assembly Language SIG meeting to organize this course. Any questions, comments or suggestions are welcome. I can be reached at 995-1388 during the day.

Jeanne

(continued on page 3) ►

Agenda

(Not determined at press time.)

Next Meeting June 9, 1984

Jesuit College Preparatory School
12345 Inwood Road, Dallas, Texas
(See map on page 12)
9:30 to 12:00

North Texas PC NEWS

Published monthly by members of North Texas IBM Personal Computer Users Group for their use. Members each receive a free subscription; for others, price of the NEWS is $1.00 per copy. Advertising is accepted; contact Editor for rates. Members are requested to notify the editorial staff in writing of address changes. Send all editorial correspondence to the Editor, PC NEWS, 2025 Rockcreek Dr. Arlington, TX 76010.

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Deadlines:
All material for publication in 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 is 56 characters. Article submission is preferred by modem or SSDD disk (ASCII format). Typewritten copy is acceptable.

North Texas IBM Personal Computer Users Group

A non-profit, independent group, not associated with IBM Corporation. The Group meets on the second Saturday of each month. See page 1 for meeting time and place.

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	& Ricky Burke	(214)276-5003
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(24 hrs, download & upload, messages, 300/1200)

Dues: Regular Membership - $24.00 year
Student membership - $12.00 year
Payable in January. Dues are prorated for balance of year when applicant joins after January. Mail dues to: Treasurer, NT IBM PC UG, 10400 N. Central Expwy #210, Dallas, TX 75231

Room Assignments

9:30am - 11:00am

Auditorium General Meeting

11:00am - 12 Noon

Auditorium	Comp. Aided Instruction
Room 105	Beginners Group
Room 106	Advanced Programmers
Room 107	BASIC Applications
Room 111	Business Applications
(open)	Beginning Assembly Language

12 Noon - 1:00pm

Room 111 Engr & Scientific (w/Apple)

1:00pm - 2:00pm

Room 107 Ham Radio/Modem/Comm (w/Apple)

Articles May Now Be Submitted Via STARTEXT

You can now send your articles to PC NEWS using STARMAIL. We subscribed to STARTEXT to see if this service could be used in transmission of articles to the editor. It worked fine! Three of the articles in this issue were submitted this way.

Prepare your articles as usual (ASCII format, 56 characters wide, unjustified) and send them to me at STARMAIL address 50573. You may do this at your leisure, of course, as long as it's before the fourth Friday of the month!

If you are not a subscriber to STARTEXT, continue to call me to set up a transmission time for your articles, or send them on SS disk (DOS 1.00 or 2.00), or, if none of the above is applicable in your situation, type them double spaced and send by US Mail, Pony Express, Federal Express, Purolator Courier, or whatever...

... Do it!

John

Copy deadline for July PC NEWS is June 23rd.

Beginning Assembly Language Course Outline

by Jeanne Pitz

(Article begins on Page 1.)

1. Introduction (1 hour)
   a. Machine Language vs Assembly Language
   b. Computer arithmetic
      i Binary numbers
      ii Two's complement
      iii Hexidecimal numbers

2. The Hardware Interface (3 hours)
   a. Bit numbering
   b. Character set
   c. Fetch/Execute cycle
   d. Subroutine linkage/interrupts
   e. The assembly level view of the 8088
      i Registers - General and Special purpose
      ii Addressing modes
      iii Physical vs logical addressing
      iv Segment registers
      v Control and status
      vi Interrupt vectors

3. Writing/assembling/executing a Program (1/2 hour)
   a. Text editor (EDLIN etc)
   b. Assembling (ASM, MASM)
   c. Linking (LINK)
   d. Debugging (DEBUG etc)

4. The Assembly Language (3 hours)
   a. Data movement
   b. Arithmetic and logical
   c. Control transfer
   d. Shift/rotate
   f. String
   g. Stack operations
   h. Parameter passing
   i. Processor control

5. Interfacing with the operating system (1/2 hour)
   a. Calling ROM BIOS routines

IBM Pascal Compiler Version 2.00

by Carrington Dixon

First Impressions

My upgrade of the IBM Pascal Compiler arrived a few days ago. Most, if not all, of the more famous bugs in Version 1.00 have been fixed and a number of significant new capabilities have been added. No doubt, time will show that a few new bugs have crept into the compiler, but first impressions are very positive.

The first thing one notices is that the documentation has nearly doubled! Where is original version required only one binder to hold its four hundred odd pages, the new version requires two binders, one titled "Pascal Compiler Fundamentals" and one called "Pascal Compiler Language Reference". Both are about the size of the original document. The latter supplies an alphabetically arranged discussion of all the reserved words, supplied functions and metacommands for IBM Pascal. The former supplies a topical discussion of many features, such as the original did, and gives instructions for executing the compiler, linker and the library manager.

New with this version is support for the 8087 chip, double precision arithmetic and long integers (32 bit). Programs can now address up to 640KB of memory via the long heap management routines. Single level code overlays are supported as are DOS 2.x pathnames (both at compile time and at runtime). Data structures can now be as large as 64KB. The internal floating point format has been changed for reasons of 8087 compatibility.

Because of the many different options that may be required, Pascal no longer comes with a ready-to-use object library. IBM supplies a SETUP procedure that makes installing Pascal relatively painless. There are two choices of DOS interface routines, DOS11 and DOS20. The former will produce files that can run under DOS 1.1 or 2.x but will not support pathnames under 2.x; the latter supports pathnames but will not run under DOS 1.1 at all. There are three choices of math routines, 8087ONLY, REGMATH, and EMULATOR. As the names implies, the first choice will produce files that require the 8087 chip for execution. REGMATH will produce files that cannot use the 8087 and produce results in a precision ►

IBM Pascal Compiler (continued)

that is comparable to the old Pascal. EMULATOR is for the undecided. These math routines will use the 8087 when one is available and will produce equivalent answers via software emulation when one is not. It will produce the largest EXE files of the three choices and will run slower than the REGMATH routines on machines without an 8087 chip (the higher precision costs). Note that all these decisions are made once at installation time and need not be repeated every time the linker is run. All of this is made possible by the Library Manager, a program that has been available from Microsoft for nearly a year but is making it first appearance in an official IBM version. This utility can create object libraries and update existing ones. Object modules can be added, deleted or replaced on existing libraries. A cross-reference listing of a library can be generated, and an object module can be extracted from the library and placed into its own .OBJ file. This capability is extremely welcome as it was awkward to build a program from a number of separately compiled modules without it.

A new version of the linker program, Version 2.20, is included on the Library Diskette. This version supports single level overlays and program sizes of up to 1 megabyte. There is no new linker directive to support overlays. Instead object modules to be placed in overlay are pre-processed with the MKOVL.COM program. The overlay loader PLOADER.OBJ is then included before the main program in the LINK command line. Each overlay is brought in explicitly by calls to the LOADER function from the main program. The Reference Manual has a rather lengthy example of all this for those who may need the capability. This feature works only for programs that will be run under DOS 2.x; it will not work under DOS 1.1.

Several bugs and short-comings of the original Pascal Compiler have been fixed in this release. The bug where the sine function returned incorrect values for negative angles has been fixed. It is no longer necessary to run CHKDSK to recover disk space after the compiler has terminated because of some error in the source code. The compiler and linker now set ERRORLEVEL so that batch files can check for compile errors. (You can even set ERRORLEVEL from your Pascal program, if you happen to stumble across the documentation on how to do it, hint: see page 4-7). The defaults for the DEBUG compiler metacommand has been changed from ON to OFF.

I have not had a chance to recompile any major programs, yet. I dug out my old Sine test program (which demonstrated the old SIN error) and ran it through both compilers. I used the REGMATH library and set DEBUG to OFF in the source file to produce something like apples-to-apples comparisons. This program does little more than print out the values for SIN and COS for every 0.5 radian between -10 and 10 radians. The results:

	Version 1.00	Version 2.00
Compile time	40 sec	44 sec
Link time	1 min 4 sec	1 min 24 sec
OBJ size	938 bytes	994 bytes
EXE size	32384 bytes	31046 bytes
Run time	22 sec	7 sec

This is more a measure of the speed of the new math routines than of the generated code. Still this kind of speed up is very impressive. The BYTE 'Sieve of Eratosthenes' test from the January 1983 issue gives a slightly different picture of the two compilers:

Compile time	40 sec	44 sec
Link time	50 sec	51 sec
OBJ size	816 bytes	867 bytes
EXE size	32512 bytes	26966 bytes
Run time	17 sec	16 sec

All these times are from the Norton TIMEMARK utility and thus include the load time from a floppy disk. The differences in the link and run times are within the variation that one might expect from one run to another; that is, no measurable speed difference. The significant improvement here is in the EXE file size.

The new documentation is not only larger, it is better. IBM has put in a lot of examples this time around. There is even an explanation of how to use the DOSXQQ function; that was left as an exercise to the user last time. There are still a few oversights and omissions (like the setting of ERRORLEVEL mentioned above) but your chances of finding the information you want and of understanding it once you have found it are very much improved. Now for the bad news. Although the compiler can produce code that will execute on any supported configuration of PC, the compiler itself will run only under DOS 2.x and requires at least 192Kb of memory. The manual suggests that object modules created by the version 1.00 compiler should not be linked with those created by the new compiler. The include modules FILKQQ.INC and FILUQQ.INC have been replaced by FINK.INT and FINU.INT; so, modules that included them will have to be changed before they will compile. The internal representation of floating point numbers has changed; so, binary data files that contain floating point numbers cannot be passed between programs compiled under the different versions. documentation on the Unit U function calls and the detailed FCB are no longer included as IBM recommends that these interfaces not be used. The Version 2.00 Compiler should be available at Authorized Dealers 'sometime real soon'. The list price for the new compiler is $350. For a limited time, owners of version 1.00 can order the upgrade from IBM for $100; your Authorized Dealer has the forms for that right now.

Carrington

Software Report

by Dick Gall

EDS COMMUNICATOR/TEXT EDITOR (CTE)

Software shopping was pretty simple in the early days of the PC - especially in the comm area. The EDS-CTE, one of the earliest of the fully-featured communications programs, was born out of the necessity to transfer Visicalc spreadsheets and data from Apples to IBM PCs. It appeared in February '82, following the introduction of the PC during the summer of '81.

Group member and Electronic Data Systems employee Owen Ward wrote the program and EDS published it, originally in interpreted BASIC. Today's CTE is compiled for faster operation, and incorporates special features to support unattended, automatic data collection - even in the XMODEM protocol mode.

CTE's main feature is the unique combination of communications, text and file manipulation, and function-key driven operation. Communications features are designed to make good use of the capabilities of the Hayes Smartmodem. An editable dialing directory file includes all communications parameters and space for names, phone numbers, logon sequences, and characters to be deleted in incoming text. Once the directory entries are complete, a connection can be established with a single keystroke.

The communications mode is entered by selecting the dialing menu. The communications status line shows the duplex setting, modem status, data collection (on/off), number of text lines and bytes in memory and maximum lines allowed, remaining memory available, the name of the default diskette drive, and the time and date. For downloading, files are received into memory by turning on data collection (F3). A file to be uploaded is called into memory using the INPUT command and then transmitting it with F8. Line numbers entered after the XMIT command transmit part of the memory file, and YMIT transmits an entire file direct from disk. F10 toggles direct downloading to a disk file.

The editor operates on the text in memory, whether received from the communications line or entered into memory from the keyboard or a disk file. The list of editing commands includes line commands for add, copy, delete, edit, list, move, print, swap, and replace string. The in-memory text file may also be listed in ►

Software Report — EDS COMMUNICATOR/TEXT EDITOR (CTE) (continued)

hexadecimal format. Diskette files may be input, output, erased, and renamed. Editor commands are invoked by typing only the first letter of each command. The F2 function key puts the complete menu of editor commands and function keys on the screen.

While set up for unattended continuous auto answer, and program will answer one call after another and record incoming data directly in a disk file. The file is closed at the end of each call and is reopened for append to record data from each succeeding call. Ward Christen's public domain Xmodem protocol implements error correcting transfers of both ASCII and binary files. Standard Xmodem receive and transmit functions are available, plus continuous Xmodem auto answer and Xmodem auto dial, which are designed for unattended operation and file name control from the transmitter. These two commands permit two modes of unattended data collection: a central computer dials each of a group of remote computers, or each of the remotes calls in to central.

The typeset manual for CTE includes a tutorial, complete descriptions of all functions and commands, an error messages list, and example applications. Chapters are quickly located with the tabbed sections, and the index is handy for subject reference. The package includes a quick reference card.

The flexibility of CTE's unique architecture provides an increasing feeling of control and productive efficiency as the features become familiar. It is especially effective in an environment that includes file transfer and/or editing requirements, such as the download-update-upload cycle that is becoming more common as PC's with asynchronous communications replace on-line so-called "smart" terminals. The extensive capabilities for unattended data collection through autodialing and Xmodem transfer are unique in a standard communications package.

Dick

National Computer Graphics Association Conference

A Report by Tom Prickett

I went to the NCGA conference in Anaheim, CA, May 13 thru 17. I attended the entire show, and would like to share what I saw.

NCGA is the National Computer Graphics Association. They have a yearly conference. It is not generally the place where you go to keep up on the latest in personal computers, but this year was different. They were everywhere! There were still plenty of high dollar maxi-machines, but now, the intelligent terminals they are attached to are generally PC's. Many of them are IBM-PC et. al., and the 68010 chip is also making a big splash in this high end market. I did not see one setup that utilized the PCjr, not even at the IBM display.

Several configurations used the PC as a workstation, attached to $80K-90K more worth of equipment. Sometimes the PC had standalone capabilities, and occasionally had to spew data to the host(s), and sometimes the PC software demands the use of a souped up graphics display to do sophisticated picture processing before your eyes. Here is an IBM-PC software potpourri.

Aztek - Turnkey system for generation and editing of high resolution color slides. One product - PC Artist is a stand alone graphics editor. To create color graphics slides, another Aztek product is required - Slidegraphic II. This expensive unit ($88K) can be purchased, or you can ship your data off to one of their remote processing centers, and use just the PC.

Imaging Technology - PC Vision Frame Grabber, a video image processor, hooking to a 512X512 video display. A picture is digitized from a video camera, and converted into a bit mapped image for processing by an IBM-PC. Each board ($3995) has memory enough for one bit plane. Also supports multi-bus and Q-bus.

Slidetek - Graphic artist workstation for producing color slides. Amazingly quick graphics editor. The IBM-PC has to have special hardware to do this. Digitizes from pictures. Entire package approx. $75K.

Via Video - Markets a picture processing system that uses the IBM-PC as a workstation.

Number Nine Computer - Graphics boards for IBM-PC. 512KX512K resolution, 256 simultaneous colors from a palette of several million. Compatible w/Halo, SIGGRAPH Core compatible. Working on GKS and NAPLPS. Approx price $945-2200.

But there were also several configurations that used straight vanilla IBM-PC hardware. They almost always have a theme, like CAD-drafting, artist, business graphics, etc. A few of these include:

AutoCAD - A very general graphics editor that can be used for almost any graphics oriented task. This is what you can use to create those gigantic pictures where you can zoom to your hearts content, each closer look revealing new levels of detail. There are some specific applications where some help is provided in the form of symbol libraries, and connections to mainframe programs for very CPU oriented tasks.

P-CAD - A graphics editor (line oriented) similar to AutoCAD. Could interface to any applications area. Symbol libraries oriented to architecture at first, mechanical and electrical to follow. Good editor.

Graphics Software Systems - Marketing an implementation of the Graphics Kernel System GKS that runs on the IBM-PC. GKS is about to become an ANSI and ISO graphics standard. It is a large subroutine library that provides a programmer's interface to graphics. There are several other products, all of which are built around a device independent software base. It looks like a very solid package. You will probably hear more from them in the future.

The show consisted of a bewildering array of hardware and user interfaces:

Hardware: An interesting three dimensional viewing device is being marketed by Stereographics Corporation. You must wear a distracting pair of goggles, but what you see is a flicker free three dimensional image. The two pictures making up a three dimensional images are alternated on the display device. The goggles consist of a solid state shutter that is synchronized with the display. The result was stable, flicker free, and very three dimensional. Total cost is about $30K.

IBM was there with their very high $$$ graphics devices. They have an interesting new version of the IBM-PC and XT, an industrial model that is supposed to fare better in harsh environments, such as process control. It looks like an armor plated standard model that has a lock on the disk drives, and a changable filter for the fan intake. Even the monitor looks like it is surrounded by a more substantial dark plastic. Runs all the same software because it has the same insides. There is a hefty price increase over the normal model. ►

National Computer Graphics Association Conference Report

(continued)

New Media Graphics Corp. is marketing a device that overlays a computer display on top of any NTSC video input. This allows a computer screen to be overlayed with any video image. The composite output from the IBM color board would be sufficient to hook to this device. Their total system cost about $85K.

User Interface: There were nice and pop up menus galore, but this conference had a large number of data tablets as pointing devices. You still have the hand-eye coordination problem, as with a mouse, but it is very easy to overlay a command template, and digitizing is not a problem. The CAD/CAM orientation of many of the exibitors partially explains this.

Devar Inc. - They produce a light pen for the IBM-PC that interfaces through the standard IBM color graphics board and monitor. With the addition of some special software, you can be talking with a light pen pointing device. The device costs about $400. Needs specialized software.

As with any large show, you feel you could spend the entire time walking around the exhibits, but there were technical sessions and tutorials for generals and particulars. The NCGA has come out solidly in support of the graphics standardization efforts, and they devoted no fewer than three tutorials and four technical sessions explaining what the standards mean and how to use them.

One of the speakers commented that the increased presence of the PC did not dominate the show enough to call it the year of the PC for NCGA. But compared to the presence in last year's show, he could only speculate that next year probably would be. Next year, it will also be in Dallas.

Tom

Adventures Inside the XT

by Clarence Handlogen

HARD(on hearing)DISK

If your hard disk has started making like a banshee, this article is for you!

Nearly a year ago we purchased our XT. Its been a joy to own it and two of us have given it heavy use. Many times it has been turned on in the morning and turned off 12 or 14 hours later. We especially like the hard disk and use it mostly for storing the collection of systems we've acquired which nearly fills it. With this as background - on to the point.

A few months (three of four perhaps) after we began using the machine, a foreign, high pitched vibrating sound became noticeable. This foreign sound would come and go sometimes starting when the computer was first turned on and sometimes starting much later - and steadily getting louder and louder. It progressed from being a concern, to an annoyance and then to an intolerable discomfort. Relief became essential and we opened the machine to "sniff around" as to a cause. We discovered that firm pressure on the top of the hard disk, on the inboard side, would stop the offending sound. It was then clear that the sound, fears confirmed, was coming from the hard disk. By rigging a device to put pressure on the top of the hard disk it was possible to reduce the level of the sound but not possible to eliminate it. With this knowledge, we began a search for a real answer.

Since we purchased our machine from Sears, we called their service department first. We were told they had no maintenance technique for such a difficulty. They were well aware of problems of foreign sounds coming from hard disks in the IBM XTs and indicated that the sound problem had nothing to do with the particular brand of hard disk. It was said that it was a "sonic vibration" coming from the "ground strap" used to protect from static electricity. The suggestion was that we should "let it screech" and "keep on running it till it crashes" as no warranty coverage would apply to a problem with noise. When we said the noise was intolerable, the solution offered was to "swap out the disk" (at an expense of + or - $1700.00). Well!

We then called the IBM service center and asked their opinion. They had nothing to offer in the way of a better solution - they did suggest (with the aid of our inquiry about it) that the problem seemed to be "associated almost exclusively with the SEAGATE drives." (We have now come to question this).

Later, a vendor at the User Group meeting reiterated the "ground strap" diagnosis stating that a slight twist in the strap would change the precise point of contact on the spindle of the drive which might solve the problem. This vendor did not provide such a service and had no suggestion as to who might but he confirmed other bits of information.

In the absence of a place to go, it none-the-less became time to act. After all, what did we have to lose. We could always replace the drive which was the first advice. We opened up the machine and removed the drive (there are 2 mounting bolts on right outside, as you face the computer, and 1 on the bottom all easily accessible - also there are 3 cables requiring no special techniques). Next, we removed the circuit board located on the bottom of the drive (there are readily visible screws and cables) which fully exposed the ground strap and the spindle tip which it contacts.

Remembering a technique, no longer common, of filing distributor points to repair automobile ignition systems, it seemed better to redress the surface of the contact than to "twist" the strap. Since a point file is no longer a standard consumer item we used a diamond crystal nail dresser. (You can find one among the ladies manicure items at most any drug store). A light stroke across the contact "point" on the ground strap removed a bit of its surface thus changing, ever so slightly, the character of its contact. The "point" is made of a carbon like material perhaps a tungsten, similar in characteristics to the lead in a pencil, which cuts very easily. For purposes of future corrections, it seemed wise to remove as little as possible.

Upon restarting the computer, there was a noticeable effect but the problem continued. A more vigorous filing probably would have stopped the noise but there was a risk of removing to much of the soft contact point material.

We went back into the machine for a more through study and this time we removed the ground strap completely. This is easily done with a small allen wrench. We found ➤

Adventures - - -

(conclusion)

a small, concaved spot of wear on the soft contact point made by the rounded tip on the drive spindle because of the intended contact between the two. By elongating the hole for the mounting screw, in the ground strap, it is possible to move the ground strap a few thousands of an inch, and to in effect, start the process from the beginning. This repositioning of the ground strap can be done several times before it is necessary to completely replace it.

Why skilled and trained repairmen are unwilling or unprepared to perform such a simple task is puzzling. It raises the question as to where the "swapped out" hard disks ultimately go.

As you have already guessed, our XT is purring like a kitten, at least for now, at virtually no cost. Almost anybody can make such a repair and for those who are having difficulty with a noisy hard disk drive, don't take the common advice and remove a perfectly good hard disk.

Clarence

DISK OF THE MONTH

by Doug Windham

JUNE HIGHLIGHTS

This month we have three (3) diskettes with an variety of different types of software. The diskettes are listed below:

DISKETTE JUNE8401 (Double sided)

This is the first issue of the EXCHANGE of IBM Personal Computer Information by IBM User Groups. It is to be a monthly offering to all supported user groups. Its intent is to provide an exchange of technical information, announcements of new products, and information of interest to local groups. (color or mono screen ok)

DISKETTE PD0005 (Double sided)

DND is a computer fantasy role playing game inspired by Dungeons and Dragons. It is a user supported game by R O Software of Plano, Texas. It is a cross between an all text game and a graphics game, in that the upper right hand corner of the screen (mono or color) is a graphic representation of the dungeon done with text characters. . REQUIRES A MINIMUM OF 192K

DISKETTE PD0006 (Double sided)

FC FREECALC Version 1.0 is an electronic spreadsheet. It is a user supported program by Stilwell Software Products. It has a maximum of 100 rows and 25 columns. This is an excellent way to try your hand at a spreadsheet without spending $300 to $500. It includes a .DOC file which will when printed will provide 36 pages of documentation, and includes three demonstration spreadsheets.

MA MICRO ACCOUNTING - A multi-purpose check register accounting system. This is version 1.0 by Donald R. Ramsey. It will run with 64k and 1 diskette drive by 2 are preferred. Files are limited to one diskette, but it will run on a hard disk. It is written in BASIC as a single program.

All members of the club are encouraged to contribute copies of public domain programs to the club library. For each new diskette of software contributed, you may select any diskette in the club library in exchange.

Doug

DISK DETAILS

Price: $5.00 Catalogs: $1.00

Available at the meeting, in the cafeteria at the specially marked table, before and after the general meetings. Media: DSDD 5 1/4" diskettes formatted without DOS (320k). Public domain software only, standard full disclaimers. Call disk of the month chairman Doug Windham at 271-5727 evenings before 9pm to submit material and programs for future Disk of the Month issues. All back issues will be available at the meeting.

Complimentary Memberships

The Club offers complimentary memberships to members who submit original articles for publication in PC NEWS.

GROUND RULES

Subject Matter. Articles may cover any aspect of the IBM Personal Computer (or work-alike) world. Main criteria is that they be of interest to members of our group. Some typical subjects include: Hands-on review or personal experience with new software, hardware or techniques... Peripheral interconnection problems and solutions... How-to articles on furniture, diskette storage, printer paper control... A standard "tree" structure for the average hard disk user... etc, etc

Number and Length of Articles Required. Four or more articles during one membership year. Each article must be a minimum of 400 words.

Submission. Submit general articles to the Editor; programming articles to the Programming Editor, Tom Prickett; and software reports to Software Review Editor, Dick Gall. Phone numbers are shown on page 2 of each issue of the newsletter.

Format. Unjustified. Standard one-column max width is 56 characters; two-column max is 120 characters. ASCII format on single sided disk, DOS 1.0 or 2.0. Send articles by modem if possible. General articles may be sent to the Editor via STARTEXT, address 50537. If you send typed copy, please double space.

Notify Treasurer. In January, eligible members provide a listing of published articles to the treasurer in lieu of cash for next year's dues.

swap PC shop

(Four lines free each month to members, otherwise cost is 15 cents per word. Ads will run three consecutive months unless notified earlier to cancel. Ads must be renewed after three months if continuation is desired. Mail ads to the Editor.)

ADD-ONS at club prices. Exclusive for PC club members only. Call us and get on our mailing list. Bring in a new member and you'll get an even bigger discount. RKS PRODUCTS .. PLANO .. 985-9768

Ads and listings in quarterly DALLAS COMPUTES brochure. Next deadline: July 27. Write for info and application form to Microsystem consultants Agency, P.O. Box 834246, Richardson, TX 75083.

FOR SALE: TANDON DS/DD drive, new in original carton, $235. Also, VisiCalc with documentation. 578-8091

ON-SITE TRAINING CLASSES: Intro. to the PC & PC/XT and DOS, Wordstar, PC-Write, Lotus 1-2-3 and more. Call Dorothy Kemp, a professional educator, at 341-5382. References available.

MEMORY CHIPS - IBM compatible 64K DRAMS TMS4164-20NL. Tested & Guaranteed. $40 for set of 9 incl tax & handling. Contact Bob Farwell 214/424-8622 between 6 & 10 weekdays, or weekends.

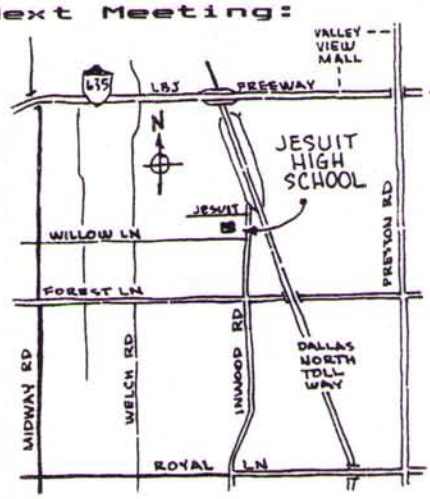
WANTED - Used IBM PC keyboard in good condition. Contact Al Calkin at 526-8345 or 4423 Cole, #203, Dallas, 75205.

FOR SALE - One 2-disk drive IBM PC with color adapter and MO DISP. CARDS, monitor, keyboard. Best Offer Over $2,500. Call Marcy at 373-1700.

WANTED - Artist to illustrate articles in PC NEWS. No pay, but undying gratitude of your editor and the other members of the Group. If you have talent along these lines and are willing to donate some of it to your Users Group, call or write PC NEWS Editor for further information.

Copy deadline for July PC NEWS is June 23rd.

Next Meeting:



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FIRST CLASS

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