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Red Cloud

NEWSNET99ER

VOL 9 NUM 1   JANUARY 1991

NEXT MEETING :
SATURDAY
FEBRUARY 2 ND

9:30 AM at the
NRH Community Center
Loop 820 at Rufe Snow Dr.

CLUB OFFICERS

Barbara Massey	President
James Crosson	Vice Pres
Lee DeForest	Treasurer
Tom Collins	Secretary
Barbara Massey	NL Editor
Tom Collins	BBS SysOp
Gary Owens	BBS SysOp
Jeff Drinan	Librarian
Bill Duncan	M/S Chrmn

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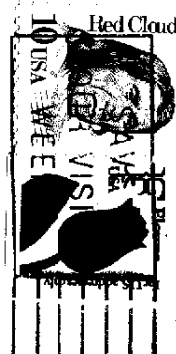
-----BAM's BABBLES-----

This upcoming meeting will be my first meeting as your new (gulp) President (gulp). I am flattered you have enough faith in me to elected me as your new President and hope that this year will bring many new programs and improvements to our faithful computer. I have never held such a position before so this will be a very new and challenging experience for me. Please feel free to correct the blunders I will make, and I will always be open to any suggestions you may have. I want to thank James, Tom, Lee, and Bill for their support in the past, and feel secure in the knowledge they will continue to be there for me. To have a good club, you need members who willingly give their time and and share their knowledge, no matter how limited it is, with others. I feel the NET99er is a great club!

Rumor has it there are going to be some really good software for the TI/Geneve released this year. There is already some new hardware. There is a later style of 24 pin printers. Some have both forward and backward tractor feeds. This way you can take the last sheet printed out of the computer, have the paper retract to the unload/park setting, then reload (all with the touch of a button) and not waste any paper. I recently replaced my Star NX-1000 Rainbow (really a nice printer) with a NEC P6300. I went with the wide carriage because I plan on this being my last printer for years to come and for the extra cost it was well worth it. The P6300 has 8 fonts on the console to choose from, three proportional spacing, 4 letter quality, and one draft mode. It prints up to 300 cps in the High Speed Draft, 12 pitch mode. There is also a color kit available with 8 'main' colors and up to 265 colors with the appropriate software. I have been playing around with the Proportional Spacing, and although the Geneve allows for PS, I have not figured out the correct combination to use both PS and right margin justification. Any hints, anyone?

The most recent talk of the 99ers is about the programs being ported over to the 9640 and the 4a from IBM and compatibles, including some business programs and possibly even some Unix language capibilities. now that would be worth waiting for, especially since we wouldn't have to buy another machine to be able to run IBM software. I wonder how big 'BLUE' would feel about that? Some of the gossip is coming from some pretty reliable sources, such as Beery Miller and Al Beard (author of Fortran for the 4a and 9640 and now the compiler for 'C') and even our own Gary Higgs. As of 1-24-91 Gary converted one clone program and uploaded it to Tom Collins, neat huh?

Tho we have lost some members, we have also gained some. The newest member is Loran Mann. Loran lives in North Richland Hills down the street from James Crosson. Loran is new to the TI world so lets be sure to give him all the help he needs. Welcome aboard Loran Mann!

Our next meeting is Saturday, February 2nd, at the North Richland Hills Community Center, Rufe Snow Road and 820. We start at 9:30 am - hope to see you there!***BAM***

-----FROM THE VP-----

I have long disliked the sound of the fan in the PE Box and was a little nervous about changing it out for the quiet fan, however I did a long time ago and did have problems as a result. After having a near catastrophe, I decided to go back to the old fan, but a couple of years ago the Dallas group offered a deal of installing quiet fans in the PE Box and installing insulation in the box at the same time, so I thought I would try it again and add the insulation this time.

Well, this is when I discovered that not all quiet fans are alike in fact, there are many and the types are various. One engineer that I talked to gave me some pointers to act as a guide. For one thing just knowing the watts and the size of the fan is not enough, in fact there are at least a half a dozen fans available in the size and watts of the fans that were used by the Dallas group, this fan is also known as a wisper fan, and it is adequate if the PE Box is insulated. And if the power supply is not heavily loaded and the temperature of the place your using the system is fairly cool and clean, then this would work fine, however, if any of these conditions are not met, you could be flirting with a real problem.

My first quiet fan was a 6w low torque bushing fan (wisper fan) which should have been sufficient for most people, but it was not enough coolant for my system, especially since I make the disk of the month for the club and I tend to have computer marathons exceeded only by Barbara that I know of. Another factor that I needed to include in my research for the right fan was the amount of power my system was consuming. My PE Box is almost full, having only one empty slot which is sealed off. The problem is that I have two power hungry cards in my box (the Geneve and the HFDC) that really consume the watts. So what is the answer that I came up with? Instead of using the 10 or 12 watt fans which make as much noise as the egg-beater that came with the box, I use two (2) fans of the the 7 watt variety. Yes the 7 watt does make a little more noise than the 6 watt wisper fans, but the cooling is well worth it. After using only one 6 watt wisper fan and having to replace three disk drives and a power supply and board I knew that I needed more air to cool off the cards and the power supply.

Next month I will try to give a description of how I made my 2 fans work and installed in the box. I will say this, it works so good that cool air even flows out of the disk drives now. So till then, keep on computing, but check your fan for heat.**Janes**

--·--SysOp's RAMblings-----

This month we have had very little if no problems with the BBS.....EXCEPT...... not enough calls. If you wish to utilize this important link to the club, please do so! We need your support, and since we are paying for it, lets get some use out of it. I hope everybody read the last newsletter. It had more telecommunications info in it than I have ever seen in a newsletter. It answered questions I had when I first started BBSing. I know that all the info in the articles were not hard useful facts, but knowing a little about that end of computing helps everybody. Face it, we might as well get into it more, because future society will be using the comlink to computers more and more. So much already exists that it boggles the mind. I prefer my account on Startext over the paper being delivered for several reasons. First, it is ecologically more responsible. Paper is expensive.... to the trees as well as for printing purposes. Another reasons is up to the minute news. If you have been following the IRAQ crisis, the news online is faster breaking than TV. There are articles being posted over the wires before TV gets it, and it is online a soon as Startext gets the data. And again, classified ads are published in the next days paper, but is online as soon as the ad is placed. The same goes for stock reports, online at the close of the day as opposed to being printed in the next mornings paper. You can even get a 15 minute delayed qoute. And this is only our own local Startext. There are online services all over the world. Several BBS's I call are on the FIDONET. I see messages and correspond to people all the way to Australia! I'm told that the FIDONET even reaches as far as Moscow, Russia.

If you wish to call the BBS and check things out, please call 457-7043 - 2400/1200/300 bps - 7E1 - 24hours -**Tom Collins - Sysop**...Click! NO CARRIER......

-----MINUTES OF NET99er MEETING
of January 5, 1991-----

The meeting was called to order by James at 10:00 am with 16 members present. James thanked all the folks who assisted with the club during the past year. With the membership declined, we are now at the 'hard line' point and the 4A will probably remain viable for years to come. James can not run again for President due to his need to change professions.

The minutes for December were read and accepted. The treasurers report was read accepted by members and the monthly reports were passed around for all to see. The BBS is up and running. One of the problems was due to a bad console, and a loner fixed the problem. Jeff Drinan donated 3 consoles to the club. (Thank you Jeff) The Computer Monthly has TI99/4A articles and to subscribe to it you can call 1-800-336-0576. There are still some 128K chips available through James. Some of the items discussed were RAMdisk items, the RAMBO and the TIM.

Elections were held and the new officers are: Barbara Massey - President; James Crosson - Vice President; Lee DeForest - Treasurer; Tom Collins - Secretary; and Bill Duncan - Member at Large.

Barbara demoed how she uses TI Writer to prepare the Newsletter. During the numerous hardware interruptions interesting and lively discussions ensued.

James demoed the DOM which contains a Boot program, the new Archiver version 3.03g, a Pro Page 99 conversion Utility that converts TIPS and TI Artist images for use with Pro Page. A TIPS cataloger and the news TIPS DOC program.

With a number of new TIPS images available, the club will pay Lee to download the balance of the TIPS files from GEnie.

A Buy-Sell-Swap was held followed by a short break.

James then gave an interesting demonstration on the disassembly of a console. He showed us what a socketed motherboard looked like and discussed possible clip failure symptoms.**Submitted by Charles Bathman - Secretary**

-----TREASURY REPORT-----

We started the month and year out with $847.63. We had expenses of $156.57, had an income of $84.73, leaving the club with a total of $775.79.***Lee DeForest-Treasurer***

-----RENEWALS DUE-----

The members who need to renew their membership in January are: Ken Dominiec, Donald Halpenny, Chester Johnson, and Dr. Michael McLendon. Please be sure to check your address label, if your membership expiration date is incorrect please let me know.

Unfortunately, we have had to drop quite a few members who were over three months past due. If you are unable to attend a meeting, you may send your $20.00 membership fee to NET99er HCUG, c/o Bill Duncan, PO Box 534, Hurst, Texas 76053.

Also, be sure to check with Lee Deforest for your expiration date of your MICROpendium subscription.

-----PAGE PRO 99-----
HIGH RESOLUTION PICTURE
PRINT UTILITY V2.0
by Ed Johnson

This rather simple utility was written to fill a need that many Page Pro 99 users have: to get higher resolution output than is currently available with Page Pro 99. I think you will find this utility very useful in it's current form. It will read any size Page Pro 99 format picture file and print it out in 4 (four) different combinations of density and width. The program is simple to use, is reasonably fast, and gives excellent results. In addition, you can selectively overstrike the output. If you choose not to overstrike, the output is the same as from Page Pro 99. With overstrike, the paper is fed 1/216" (or 1/180" for 24 pin printers) and the same line is printed again.

With overstrike output, printing takes twice as long, but the quality is much improved. The program will handle any size Page Pro picture, up to and including a full page. You can clip a page as a picture and then use this utility to print it out in higher resolutionthan is currently available with Page Pro itself. I have provided no options to squeeze the picture vertically (yet), so I recommend that you leave a blank line at the top and bottom if you want to print a whole page that you've clipped.

After the program is run, you are greeted with a title screen that describes the program. Press any key to advance to the next screen. This screen has the fairware notice and will prompt you for several choices for printer output. First, select the printer mode: 8 pin or 24 pin. 24 pin printers will handle both options. the exciting part of the new 24 pin mode is that it supports full 24 pin output, not just emulating as 8 pin mode.

The output is also set up so that a full 66 lines will fit on an 11" page. What I had to do to accomplish this was convert normal 8 pin graphics data (one byte) into 3 bytes of graphic data for the 24 pin mode. In doing this conversion, I expanded (or reduced, depends on your point of view) the data to use 20 to the 24 pins and set the line spacing accordingly. No matter your point of view, the output on the page and the quality us excellent!

The next three selections are for determining density, width, and overstrike. You can get 8 different outputs with this version. The 4 (four) combinations of density and size can each be printed without overstrike. Those with 24 pin printers can actually have 16 combinations since there is also a vertical size difference between selecting 8 and 24 pin mode.

To QUIT the program, enter "0" for printer selection, or a null string when prompted for the picture file name.

-----TI-WRITER-----
by Stan Katzman
PART 4

Well so far we can create a document, edit it, and save it to disk. Let us now get a document from disk into memory. This is called LoadF.

Go to the Command Mode and then press F for Files, then press LF for LoadF(ile). You will now be prompted for the file name with the header 'LOAD FILE, enter filename:', at this point enter 'DSK1.filename' (if you have a one disk system). [Before you do

this you have to remove the program disk and put the file disk in the drive.) The file will then be put in the memory (Text buffer!) and the cursor will be at the begining of the file. You can now look at and edit or print out this file.

Let us assume that you forgot what was on your disk. In order to find out what is on your disk you have to ShowDirectory. Let us discuss this process. Again go to the Command Mode and press F and this time press SD. Another line shows up saying "SHOW DIRECTORY, enter disk number:" at this point just enter the drive number that your files disk is in (in a one disk system press 1 <enter>) and your disk directory is displayed. At the end of this routine on the bottom of the screen it will say 'Press ENTER to continue' and you will be returned to the edit mode. While the directory of the disk is being displayed on the screen there is no effect on the material written in the Text Buffer or on the disk.

If for some reason we want to get rid of a file on the disk we can 'DeleteF' it. Let us go through this process. Enter the Command Mode, press F (for Files) and then press DF <enter>. You will now see 'DELETE FILE, Enter filename:', at this point (if we have only one disk drive) type DSK1.filename <enter>. The file is now deleted, removed, gone, in never-never land. Once deleted it cannot be recovered, so be sure you want this removed before you use it.

We can also load only part of a file, this is done the following way: At the LF command stage type the line number of the first line of the file part to be loaded, space, line number of the last part to be loaded, space DSK1.filename. (1 disk system) Example 22 55 DSK1.TEST, this will load lines 22 to 55 inclusive from the file "TEST" in drive #1. We can also merge files into memory. Here is how: load a file (or create one) then go to the Command Mode, press LF <enter> and now type the following: the line number of the line in the text buffer AFTER which the file is to be loaded, space, then DSK1.TEST. Example 72 DSK1.TEST, what will happen here is the file TEST will be put in memory starting at line 72 in the buffer. This could be dicey because if the sum of the two files is greater than 23K you could 'overfill' the buffer.

Well we have done enough this time. More next time.

ED note: There is a way to recover the 'lost' file. Check out the TI Writer manual or try one of the many Utility programs available.

-----*IMPACT/99*-----
by Jack Sughrue
Box 459
East Douglas, MA 01516
THE SOFTWARE BIGGIES

GENIAL COMPUTERWARE (Box 183, Grafton, MA 01519) is emerging as a TI software developer to challenge long-time leader in this field, ASGARD SOFTWARE (Box 10306, Rockville, MD 20850). Both companies' free catalogs make a 99er's mouth water.

Genial's 15 programs (by authors Peter Hoddie, Paul Charlton, Warren Agee, Mike Dodd, John Johnson, and Wayne Smith) are primarily utility. MACFLIX ($15) lets you view, print, and save graphics created on the Macintosh; PICTURE TRANSFER ($30) permits viewing different graphic files, creating slide shows, combining multiple images, and converting among formats (GIF, RLE, MYART, GRAPHX TI-ARTIST) for the Geneve; TRIAD ($20) combines features of the terminal emulator, 40-column text editor, and disk manager in one program; HYPERCOPY ($20) is called by Genial "the final word in disk copiers" and can copy a SSSD in less than 35 seconds, provide a skewing technique for faster disk

not only converts between TI-ARTIST and CSGD formats but can stretch, shrink, mirror, and rotate graphics all in fast assembly; GRAMPACKER ($10) customizes GRAM emulating devices in significant and very useful ways; XBASHER ($10) is faster and better than Jack Sughrue's SMALLIFYING program contained within his PLUS! disk and can compress up to 1/3 of an XB program; XB:BUG ($15) debugs, modifies, searches, displays as it provides a fine XB tool for the programmer; REMIND ME! ($15) functions as a fun and fast schedule planner with all kinds of built-ins; BROWSE ($10) aids in the management of text files by permitting viewing, printing, combining, and browsing; PC TRANSFER's ($25) fast and efficient way of moving data between you TI (and/or Geneve) and the MS-DOS machine makes this an extremely valuable tool for those 99ers who work with IBM; GENIAL FONT PACKS ($10 each) provide a collection of 19 different fonts for use with TI-ARTIST along with some additional graphics programs; and FIRSTBASE ($49.94) a full-featured database program expected to be the only real competition to the powerful TI-BASE ($24.95 - Inscebot, PO Box 291610, Pt. Orange, FL 32029), will have a variety of exceptionally fine database features for the TI or Geneve.

Asgard's catalog of 57 software packages contains a larger variety of materials for the TI/Geneve user: games, graphics, utilities, production tools. In addition to Hoddie, Agee, and Charlton, the author/artists who created Asgard software include Ken Gilliland, Donn Granros, Harry Wilhelm, Tom Wynne, Chris Babbitt, Ed Johnson, Robert Coffey, Tom Bentley, John Behnke, Jim Reiss, Mickey Schmitt, Paul Scheidemantle, Howard Uman, Tom Wible, Travis Watford, and Charles Earl.

Games: BALLOON WARS ($4.95) an arcade strategy game with 20 screens of dangerous manned balloon flying; COLUMN ATTACK ($9.95) An 11-level fast arcade game demands perfect laser control to defeat the insane Flugelins; DOOM GAMES I & II ($7.95 each) include a pile of bizarre epics for the TUNNELS OF DOOM addicts; THE GAME PACK ($5.95) provides two distinct arcade games on one disk (Haunted Mine II and Missile Wars); HIGH GRAVITY ($9.95) is an addictive space simulation game that must be played to be appreciated (and my personal favorite); VOLCANO FORTRESS ($7.95) is a collection of five additional TOD great games; LEGENDS ($22.95) is considered by MICROpendium, Computer Shopper and many newsletters to be the best graphics adventure game EVER for the TI; LEGENDS II: THE SEQUEL ($17.95) features so many new, exciting things it is already considered by many to be even better than its predecessor; OLD DARK CAVES: THE LOWER CAVERNS ($17.95) by the same author not only continues with the extraordinary graphics of the LEGENDS series but contains a 50-level dungeon; OLIVER'S TWIST ($9.95) will satisfy the cravings of Adventure Module owners with this very unusual adventure.

Graphics programs for Asgard that are $7.95 each include two sets of ARTIST BORDERS, five of ARTIST FONTS, and nine of ARTIST INSTANCES. The variety of these TI-ARTIST collections is incredible. There is also ARTIST ENLARGER ($9.95) which can enlarge, squeeze, stretch, or reduce singly on in multiple passes any picture or font; FONTWRITER II ($22.95) provides a companion/environment for TI-ARTIST that will let you successfully use graphics with any version of TI-WRITER; GRAPHX COMPANION SERIES ($24.95) contains all four packages of this popular series of hundreds of pictures, clipart, borders, fills, and more; DISK OF DINOSAURS ($12.95) is a delightful and unique graphic package of dinosaurs and animation; GRAPHX SLIDESHOW ($9.95) allows viewing of GRAPHX or RLE pix in extraordinary ways; MY-ART COLORING BOOK ($9.95) for the Geneve is a companion to the MY-ART program.

Although Asgard had always been famous for such productivity tools as RECIPE WRITER

(and the ELECTRONIC GOURMET companions), SCHEDULE MANAGER, STAMP MANAGER, and the freewheeling C-database TOTAL FILER, the company has released a new pile of unique additions. TYPEWRITER (Disk $19.95, Module $24.95, Module with built in printer port $39.95) is just what is says it is - a full featured electronic typewriter that is incredibly easy to use; CALENDAR MAKER 99 ($19.95) and CALENDAR MAKER UTILITIES ($12.95) will greatly satisfy even the most jaded calendar user with user-friendly graphic/text picture perfect calendars from any month or year from 1600 to 2400; CASETTE LABELER ($9.95) simply and quickly prints detailed cassette box inserts for your computer or audio cassettes; FORM MAKER 99 ($24.95) not only creates very complicated business forms but almost any kind of ANYTHING that can be designed for home, school, business, PTA, the kids, or anything else; and PRESS ($59.95) already described as the best word processor for the TI is compared favorable to the massive processors for the IBM and others.

Asgard's Utilities include BATCH IT! ($19.95)which permits all kinds of sophisticated programming techniques with a minimal amount of effort; EZ-KEYS PLUS ($14.95) considered the ultimate XB programmer's environment had just as many uses for non-programmers; BEYOND VIDEO CHESS ($9.95) lets you - AT LAST! save and load chess games to disk, print screen or listing of moves, control the pieces with a joystick, use the board for two players, and more; MUSIC SYNTHESIZER ($9.95) lets a novice create music by dropping the notes onto a screen page; PR-EDITOR ($19.95), a multi-featured, superb text editor, is a programmer's ultimate tool, no matter what language you write in; RAM*BOOT ($9.95) automatically boots setups for Myarc's 128 and 512K cards; TOD EDITOR ($19.95) is the only utility for creating or changing TOD games; QUICK-RUN ($9.95) may be destined for the most-used XB utility for the TI once people begin to use it as it's the fastest way to operate XB programs in existence.

It is well worth every TI owner's time and quarters to send off for these tempting, descriptive catalogs from Asgard and Genial.

Copied from the HUG NEWS, April/may 1990 issue.

-----*USING A MODEM*-----
by Dick Berry
#2

A couple of months have passed without my getting the second part of this series to our editor. For that I apologize. I will try to be more prompt with future articles.

In part one, which began on page 7 of Decembers issue, I tried to cover what modems are; what they do; what is meant by baud rate; acoustic and direct - connect modems; and some reasons why people use modems. I also hinted at costs — ballpark figures only!

Interpersonal communication between individuals by modem can be quite exciting and rewarding. Let's say I have a program that you want. You can call me on the phone and if I am willing to send it, we proceed as follows:

I am assuming that both parties have at least one disk drive, a 32K (or larger) memory card, an RS232 card, and some type of modem. It is necessary to have software that will access the modem. The two most popular programs among people I know are Fast-Term and Telco. I normally use the former, although my friends try to convert me to Telco, and I must admit that it offers more options than does Fast-Term. Both are fairware and can be obtained from your user group library or a friend. Since I don't know which one you will be using, I will try to point out general things you will need to know/do and leave it up to you to read the documentation for your program to discover

how these may be implemented.

For our interpersonal transfer, our two computer users get in touch by telephone and agree upon a baud rate, usually 300, 1200, or 2400. Then they make sure that both their modems and their software are set for that rate. One of them will type the command "ATA" on the monitor and the other will type either "ATO" or "ATD" depending upon the modem they own. The "AT" in all modem commands stands for "Attention" and serves to alert the modem that what follows is a command. The "A" and "O" stand for "Answer" or "Originate", the two modes that the modem can use. Some modems use the "D" command to go into originate mode. Either way, one modem must be in answer mode and the other must be in originate mode for a connection to be made. Your modem manual should explain this in greater detail.

Modems vary, and I have discovered that my "normal" pattern -- me with ATA, and my recipient with ATO, does not work with everyone else's modem. You may need to experiment with the other person in an attempt to connect.

Whatever you select, both parties type the command, press the enter button, then hang up the telephone (for some modems you may also have to push the voice-data switch to DATA).

You'll then hear two tones, and a sort of static sound, followed by the message : "CONNECT", "CONNECT 1200", or "CONNECT 2400". This indicates that the connection between computers is successful. You can now type messages back and forth that will display on the other person's computer screen. For typing to each other, you will probably want to switch first to HALF - DUPLEX mode (see your software docs), otherwise you won't be able to see what you are typing, although the recipient will.

Once you are ready to begin transmitting a file or program, each of you will need to signal to your computer that you are about to 'upload' (send) or 'download' (receive) a file. Check the documentation for your software to see how this is accomplished. the program will ask you to designate a disk drive and a filename to either send or to save the received information.

Once the transfer has started, you can both sit back and wait for "FILE TRANSFER COMPLETE". Your disk drive may turn on several times during the transfer. This is either to read portions of the file from disk for sending or to save the information received. When the transfer has been completed, you may type back and forth again, perhaps suggesting the sending of other files, etc. It is a good idea when you are beginning, for the inexperienced person to try both sending and receiving, so that you develop familiarity with both types of procedures.

What types of files can you send? Almost anything, although there are some limitations based on the type of computer you're using and the file transfer method. If you use your computer to send files to a friend with a TI 99/4a or a Geneve computer, you can send and recieve programs, text files, etc. However, if the other person has a different brand of computer (an IBM or Apple, for instance) it only makes sense to send text files, since programs designed for the TI won't work on that computer anyway.

There are several file transfer methods you can use, including ASCII, Xmodem, ITBBS Xmodem, Ymodem, Compuserve B and others. Your program documentation will show you which is available to you. The various methods, called protocols, each has advantages, but the main point is that both the sender and receiver must be using the same protocol.

All right! I hope you were successful on the first try, but don't be discouraged if you were not. If you keep trying, changing the words typed to the screen and other options, you're sure to catch on quickly. Some people connect successfully on the first

try; others need a few tries to get going. Once you have succeeded in connecting to one other computer, subsequent transfers with the same person should be easy. With a different individual and a different modem, you may have to experiment again.

Now that you've mastered one-on-one transfers, let's call a BBS and transfer some files. You may remember from the first article that the CONNI club's board, the Spirit of 99, may be reached by calling 262-3412. Chuck's BBS, also for the 99/4a and the Geneve, is at 268-1994. If you are dialing from outside central Ohio, use area code 614. TIABS, mentioned is part one, is currently unavailable. Watch for more information regarding its status in later issues of this newsletter.

BBSes can vary in what keypresses are needed to get from one section to another. I suggest that, on your first call to any BBS, you print out the menu screen (see your software docs) and keep it handy until you are thoroughly familiar with which key does what. What should you look for? Find out which key lets you read messages (some boards send them to you automatically, and others will allow you to access only those messages directed to you personally). You can find out a lot about other users by their messages. In addition, you'll find out much about software and hardware just by reading the questions and answers provided by others. If you have a question or problem with your computer or with modeming, find out how to post a message and ask away. You're sure to get quick advice from someone who has the information you need.

In your first session, also be sure to learn what the key you need to press to "log off", i.e. say goodbye and quit communicating with that board. Find out what key sequences let you upload and download information.

Some BBSes will let you download a limited number of programs before you must upload something for other users. If you have very little software (public domain and fiarware only -- boards usually will not accept copyrighted software) and nothing really new, talk to the sysop, the computer operator who runs the board. You may be able to do this right from your computer screen by selecting the 'Chat' option on the bulletin board's menu. This alerts the sysop that someone would like to talk to him and, if he's available, he'll sit down at his computer and type a greeting to you. The two of you then can type messages back and forth.

If you explain that you're a novice user, the sysop may allow you to upload an older file or just advance you some download credits so that you can start to take advantage of the board. Of course, what you download from one board may often be uploaded to another, if that board does not already have it.

You might also want to explore such items as the boards 'stats' -- the hardware and software it uses; the user list -- you may find that a friend is already using the board; and send a message to an individual or to all other users.

If this all sounds complex, it will soon become second-nature as you continue to practice. Remember, I said in part one that modeming is FUN! It is, or at least it will be as soon as you have done it a few times.

Now, to keep a promise made in part one, I will give you two numbers to access library information through your computer:

OSU library . . .292-3112. This is the computer line, but you can also call the voice line at 292-3900 and ask for a pamphlet that explains how to use the service.

Columbus Public Library. . . 645-2070.

The OSU number will help you locate recent (after 1975) books, pamphlets, and magazines, etc., to be found in the OSU libraries, the library of the state of Ohio, and to a limited degree, the Ohio Historical Society. The latter does the same for all

branches of the Columbus Public Library system.

That's all for this time! Watch for part three.

Copied from the SPIRIT of 99, June 1990

-----TAKING THE 'BUZZ'
OUT OF BUZZ WORDS-----
by Alan D. Applegate
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Note: The following three part series on modem fundamentals is reprinted with permission from the eSoft possibilities newsletter June, July, and August 1990 issues. Possibilities is a monthly customer support publication of:

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Part 2: Modem Standards

The CCITT is the acronym for the Consultative Committee on International Telephone and Telegraph. This is an international body of technical experts responsible for developing data communications standards for the world. The group falls under the organizational umbrella of the United Nations and its members include representatives from major modem manufacturers, common carriers (such as AT&T), and governmental bodies.

CCITT Modulation Standards

The CCITT establishes standards for modulation -- actual modem signaling methods. It also determines standards for error correction and data compression (See part 1 of this series for a full description of these modem layers). For this reason, it is possible (and likely) that one modem might adhere to several CCITT standards, depending on the various features and capabilities the modem offers.

All modems signal one another at a variety of speeds, so CCITT standards for modulation are utilized by virtually every modem manufacturer. Some of the standards which are primarily modulation do include some of the higher layers (such as negotiation) as well. Multi-speed modems may use several of these standards, which include:

V.21

V.21 is a data transmission standard at 300 bps. This standard is used primarily outside of the United States. (300 bps transmissions in the United States primarily use the BELL 103 standard).

V.22

V.22 is a data transmission standard at 1200 bps. This standard is also used primarily outside of the United States. (1200 bps transmissions in the United States primarily use the BELL 212A standard).

V.22bis

V.22bis is a data transmission standard at 2400 bps. This is the international standard for 2400 bps, and is used both inside and outside the United States.

V.23 is a split data transmission standard, operating at 1200 bps in one direction and 75 bps in the reverse direction. Therefore, the modem is only 'pseudo-full-duplex,' meaning that it is capable of transmitting data in both directions simultaneously, but not at the maximum data rate. This standard was developed to lower the cost of 1200 bps modem technology, which was still very costly in the early 1980s, when such modems were designed. This standard is still in use, but primarily in Europe.

V.29

V.29 is a data transmission standard at 9600 bps which defines a half duplex (one-way) modulation technique. Although modems do exist which implement this standard, it has generally only seen extensive use in Group III facsimile (FAX) transmissions. Since it is a half-duplex method it is substantially easier to implement this high speed standard than it would be to implement a high speed full-duplex standard. V.29 is not a complete standard for modems, so V.29-capable modems from different manufacturers will not necessarily communicate with one another.

V.32

V.32 is also a data transmission standard at 9600 bps, but V.32 defines a full-duplex (two-way) modulation technique. It is a full modem standard, and also includes forward error correcting and negotiation standards as well. Many modem manufacturers already have or will be introducing V.32-compatible modems. This is generally considered 'the' standard for high-speed modems today.

V.32 is expensive to implement, since the technology required for it is complex. As this standard becomes more common and manufacturing techniques are refined, the pricing for V.32 modems should go steadily downward. At this writing, V.32 capable modems are selling for between $500 and $1000 each.

Some manufacturers have created modems that can use both their own proprietary high speed standard and the V.32 standard, for compatibility with their older non-V.32 modems. The new Hayes Ultra and U. S. Robotics HST Dual Standard are examples of the new 'dual personality' modems that are now on the market.

V.32bis

This is a developing high speed standard. When fully defined (likely by early 1991), V.32bis will operate at 14,400 bps and, like V.32, will be a full-duplex method. The CCITT has not yet defined this standard, so no modems currently use it (although some new modems have implemented what is expected to be the standard and may claim V.32bis compatibility).

Error Correcting and Data Compression

The CCITT also has adopted formal standards for the higher layers of Error Correction and Data compression (See Part 1 of this series for a full description of these layers). In order for any error correction or data compression protocol to work, modems on BOTH ends of the connection must support it. Once two modems are connected, they automatically negotiate between themselves to determine the best mutual protocols they both support.

V.42

V.42 is a CCITT error-correction standard that's similar to MNP Class 4 (See 'What is MNP' below). In fact, because the V.42 standard includes MNP compatibility through Class 4, all MNP 4- compatible modems can establish error-controlled connections with V.42 modems. This standard, however, prefers to use its own better performing protocol -- LAPM (Link Access Procedure for Modems). LAPM, like MNP, copes with phone line

impairments by automatically re-transmitting data that is corrupted during transmission assuring that only error free data passes through the modems. Many modem manufacturers make MNP Class 4-compatible modems, and some offer V.42-compatible modems as well.

V.42bis

V.42bis is a CCITT data compression standard similar to MNP Class 5, but providing about 35% better compression. Of course, this also means it provides better throughout. V.42bis only compresses data that needs compression. Each block of data is analyzed, and if it can benefit from compression, compression is enabled. Files on bulletin board systems are often compressed already (using ARC, PKZIP, and similar programs). While MNP Class 5 can actually decrease throughout on this type of data, V.42bis will not -- compression is only added when a benefit will be realized.

To negotiate a standard connection using V.42bis, V.42 must also be present. Thus, a modem with V.42bis data compression is assumed to include V.42 error correction. Some modem manufacturers already make V.42bis compatible modems, and more are on the way.

V.42bis is NOT compatible with MNP Class 5. A V.42bis modem will establish an error-free connection with MNP-capable modems (since V.42bis includes V.42), but only up to MNP Class 4.

What is MNP?

MNP stands for "Microcom Networking Protocol" and was created by Microcom, Inc., a modem manufacturer. MNP offers end-to-end error correction, meaning that the modems are capable of detecting transmission errors and requesting re-transmission of corrupted data. Some levels of MNP also provide data compression.

As MNP evolved over time, different classes of the standard were defined, describing the extent that a given MNP implementation supports the protocol. Most current implementations support Classes 1 through 5. There are higher classes, but are usually unique to modems manufactured by Microcom, Inc. since they are still proprietary.

MNP is generally used for its error correction capabilities, but MNP Classes 4 and 5 also provide performance increases, with Class 5 offering real-time data compression. The lower classes of MNP are not usually important to you as a modem user, but they are included here for completeness.

MNP Class 1

MNP Class 1 is referred to as Block Mode. It uses asynchronous, byte-oriented, half-duplex (one way) transmission. This method provides only about 70% efficiency. It provides error correction only, and is rarely used today.

MNP Class 2

MNP Class 2 is called Stream Mode, and uses asynchronous, byte-oriented, full-duplex (two way) transmission. This class also provides error correction only. Because of protocol overhead (the time it takes to establish the protocol and operate it), throughout at Class 2 is actually only about 84% of that for a connection without MNP, delivering about 202 cps (characters per second) at 2400 bps (240 cps is the theoretical maximum). Class 2 is rarely used today.

MNP Class 3

MNP Class 3 incorporates Class 2, and is more efficient. It uses a synchronous, bit-oriented, full-duplex method. The improved procedure yields throughout about 108% of that of a modem without MNP, delivering about 254 cps at 2400 bps.

MNP Class 4

MNP Class 4 is a performance enhancement class that uses Adaptive Packet

Assembly(tm) and Optimized Data Phase(tm) techniques. Class 4 improves throughput and performance by about 5%, although actual increases depend on the type of call (local or long- distance, noisy or clean connection), and can be as high as 25% to 50% on some links.

MNP Class 5

MNP Class 5 is a Data Compression protocol which uses a real- time adaptive algorithm. It can give an increase of up to 50% in throughout, but the actual performance of Class 5 is very dependent on the type of data being sent. Raw text files will allow the highest increase, while program files cannot be compressed as much and the increase will be less. On pre- compressed data (files already compressed with ARC, PKZIP, etc.), MNP 5 can actually EXPAND the data and performance can actually decrease. For this reason, MNP 5 is often disabled on BBS systems.

MNP Class 7

MNP Class 7 is the other major MNP protocol you are likely to encounter. MNP 7 provides Enhanced Data Compression. When combined with Class 4, it can obtain about a 300% improvement in performance. It is designed primarily for use with V.22bis (2400 bps) modem. This class is currently unique to Microcom modems. Since it requires much more hardware and is usually inferior to V.42bis, it is not likely to proliferate.

What does it all mean?

Despite the fact that they can seem quite confusing, all of these standards exist to benefit you the modem user. You want to be able to compare modems on price, reliability, performance, and support. You also want to be able to know that modems from different manufacturers will communicate with each other.

The past couple of years in the high speed modem arena has shown what happens when market demand occurs faster than associated standards. You are forced to pick a single manufacturer and become locked in to gain the capabilities you want. The purpose of standards is to prevent this situation.

When standards are widely adopted, you get the best of technology and competition. However, you need to know what the standards mean to be able to be an informed consumer.

Next month we'll wrap up this discussion with explanations of most of the rest of the various terminology common to the modem world, but not always fully understood. Don't miss it!

Next month: Part 3: Communication Terminology

-----CEOTICS88C29-----
by Jim Lesher
C2988 HIGH DENSITY MAGNETIC STORAGE

The Cutting Edge Of Technology In Computer Science: The bubbles are back, says a scientist at Carngie-Mellon's Magnetics Technology Center. The future high density memories is in magnetic bubble technology. At present, about 4MB can be put on a chip the size of a thumbnail. He believes in less than ten years, one gigabit can occupy the same place. The great advantage over the laser disk is, much less bulk and no moving mechanical parts.

In another university microbiologists are using magnetoactic bacteria. The bacteria use five tiny magnets to navigate by, measuring .000001811 inch each. Scientists are extracting these micro magnets and implanting them in a semiconductor wafer. At present the system is a read only, further research in under way.

-----BOOT ALTERNATIVE-----
by Jim Lesher

Boot requires 28 sectors if you run and load it with Editor Assembler, another 9 sectors if you want the character set, add another 5 sectors if you want to load from Extended Basic. Now, revived from the glory years, a menu 'Type' program which requires only 6 sectors. It doesn't have all the bells and whistles that Boot has, nor will it load Assembly programs, only basic and extended basic but, it is small enough to put on most disks. I did make a couple modifications to it. The original program would catalog only 20 PGM type files, now it will do 127 which of course required an added option on the screen to ask for another batch to be displayed. The original version also ended the program when 'terminate' was selected, now it returns to select another drive will access your ramdisk if it is numbered higher than #3. The comments and instructions for this program are written as a letter to someone at TI. And are very interesting, explaining how the program works, the differences between basic and extended basic and how they work within the computer. If you want this program and the letter and the original program, see me at Infomart at the next meeting or the next NET 99ER meeting or call, 214 821 9274.

```
10 REM ******VER.15********
20 OPTION BASE 1 :: DIM PG$(20):: CALL CLEAR :: CALL CHARPAT(97,A$):: IF
   SEG$(A$,7,8)="3844'0C44" THEN 50
30 DISPLAY AT(15,2):'abcdefghijklmnopqrstuvwxyz'
40     FOR    I=65    TO    90    ::    CALL    CHARPAT(I,A$)::
   B$="0000"&SEG$(A$,1,4)&SEG$(A$,7,4)&SE G$(A$,13,4):: CALL CHAR(I+32,B$)::
   NEXT I :: KEY(5,I,I)
50 DISPLAY AT(1,9)ERASE ALL:"Diskette Menu" :: DISPLAY AT(12,6):"Disk? (1-9):
   1" ::: ACCEPT AT(12,19)SIZE(-1)VALIDATE("123456789"):D$
60 D$="DSK"&D$&"." :: OPEN #1:D$,INPUT ,RELATIVE,INTERNAL :: INPUT #1:N$,A,A,A
   : DISPLAY AT(1,8)ERASE ALL:SEG$(D$,1,3)&" - "&N$;::: I=0
70 FOR X=1 TO 19 :: I=I+1 :: IF I>127 THEN K=X :: GOTO 140
80 INPUT #1:P$,A,B,B
90 IF LEN(P$)=0 THEN 120
100 IF ABS(A)<>5 THEN 80
110 DISPLAY AT(X+2,10):X:: DISPLAY AT(X+2,14):"$";::: PG$(X)=P$ :: NEXT X
120   DISPLAY   AT(X+2,10):X;:::   DISPLAY   AT(X+2,14):"Terminate";::: DISPLAY
   AT(X+422): "Choice? ";' Press 0 for more"
130 ACCEPT AT(X+4,10)SIZE(-2)VALIDATE(DIGIT):K
140 IF K=X THEN CALL CLEAR :: CLOSE #1 :: END
150 IF K=0 THEN CALL CLEAR :: GOTO 70
160 IF K<1 OR K>20 OR LEN(PG$(K))=0 THEN 120
170 CLOSE #1
180 CALL INIT :: CALL PEEK(-31952,A,B):: CALL PEEK(A6+B-65534,A,B):: C=A6+
   B-65534 :: A$=D$&PG$(K):: CALL LOAD(C,LEN(A$))
190 FOR I=1 TO LEN(A$):: CALL LOAD(C+I,ASC(SEG$(A$,I,I))):: NEXT I :: CALL
   LOAD( C+I,0)
200 RUN "DSK1.
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Anyone in the TI World owning a disk system at least a month and has not yet contacted Jim Peterson at TIGERCUB Software is certainly leading a severely deprived life. Jim has the largest collection of stuff at the cheapest prices possible for our amazing 4A. He couples this "test for the least" business with a fantastic knowledge of the machine and a kind, generous spirit. No one knows the BASIC and XB workings of the TI better than Jim. He is an expert in everything!

Mr TI, as he is known by his thousands of admirers, seems to take to his computer the way Jean Henri Fabre took to ants. He is meticulous and creative and understands the soul of the 4A. I'm still in awe of his skills and dedication and influence.

There is no one in the entire TI World (unless he or she has been hiding under a rock since the 70s and has just been handed a machine) who has not felt the influence of this mild-mannered, modest man.

I've come across hundreds of programs with his fingerprints on them: programming enhancements and tools he has given to us. For years Jim gave us newsletter free tutorials called 'TIPS FROM THE TIGERCUB' which were (and are) so jampacked with wonderful programming goodies that is is hard to imagine what TI life would have been without this marvelous source. He still sends these 'CARE' disks to sharing newsletter editors. He has also written the ultimate tutorial on programming in the form of subprograms that can be easily merged into any XB program (including a subprogram that makes BASIC programs into XB programs). These loaded disks of subprograms (called NUTS & BOLTS) can be purchased from him and readily used with your own or other programs. These Tigercub touches are what I see on almost every good XB program written for the TI in the half past decade.

Jim has also written so many programs for the Public Domain that we just take for granted that these kinds of programs have 'always been there'. They weren't. Until Jim gave them to us. There isn't a user group library in the world that doesn't have heaps of programs from Mr TI.

He also writes numerous 'commercial' pieces of software. 'Commercial' only in the sense that they are for sale. They are low-priced and of high quality in the heydays of the 4A when everything has high-priced and too often of extremely poor quality. Years later, I still use a large number of his programs in school (SYNONYMY, MECHANICAL APTITUDE TEST, SCRAMBLE, SQUINCH (a fiendish word game), to name a very few). I wouldn't like to be without the other Tigercub utility and game programs I've enjoyed so much over the years (particularly the unendingly fascinating NUTS & BOLTS disks), which I had the honor or demo-ing at the recent computer fair. (I had the greater honor of meeting Jim at the great TI fair in Lima, Ohio). The man's remarkable and is universally liked (which is remarkable unto itself).

Jim's three NUTS & BOLTS disks (with a descriptively succinct manual/tutorial) are now only $10 each. His five disks full of 'TIPS FROM THE TIGERCUB', a newsletter editor's Godsend, are only $5 each. His 120 original programs (a refundable $1 for the catalog) are now just $1.00 each!).

Praising Jim's efforts on our behalf is not the purpose of this article. (It's just impossible to write about Tigercub without doing so.) The purpose of this article is to tell you about the latest goodies to come out of Tigercub. Jim, because of his huge number of TI contacts (without a doubt more than anyone else in the world), has been able to put together the largest collection of Public Domain and Fairware programs, files, and templates in existence.

This PD extravaganza can be dipped into by sending a refundable dollar for this catalog. ($2 for both the Tigercub and TI-PD catalogs.) Within is an unbelievable world of goodies. A 4A maniac's paradise! At only $1.50 per disk! Not per program. Per FULL disk! And that's postpaid!

These disks do not contain a pile of junk you'll never use, either. They are selected from the thousands Jim has in his library. And they are catalogued and sub-catalogued and regrouped.

An example: Interested in music? Those are the 600 series. What kind of music? Well, remember those great graphic/music combos of Sam Moore? 600 is a disk called "SAM MOORE MUSIC #1" (341 sectors). It has 11 super selections on it. But there is also a 'SAM MOORE MUSIC #2' (343) and a 3 (348) and a 4 (337) before #604 moves to "BILL KNECHT HYMNS' (334) and so on.

You get the picture. You get a disk full of the kind of things you want and can use: Educational programs, graphics, printer utilities, typing, health, you name it. Games are broken down into so many categories it's amazing. Three disks of just CARD games! All programs now run in XB and all come with Tigercub's famous Loader, forerunner of all the good loader programs found elsewhere. Jim has games broken down by specific type: "ROAD CROSSING GAMES", "KEYBOARD MANUVERING GAMES", "Q*BERT GAMES", "FORMER COMMERCIAL GAMES", "EASY GAMES FOR KIDS", "KING KONG TYPE GAMES", "TWO-PLAYER JOYSTICK GAMES" (there are loads of one-player), 'GERMAN GAMES', on an on, page after page.

There's even such esoteric stuff as "LIGHT PEN PROGRAMS" (including a disk file which teaches you how to meek your own light pen).

There are disks of programs about Chemistry; Hires Drawing; Physics; Children's Programming with Speech; Sorts, Scrambles & Searches; Auto-loaders; Calculators & Converters; Astronomy, Religious Programs. The list seems endless.

The catalog gives you the full listings of the files on the disk; "FINANCIAL PROGRAMS' (355 sectors) includes the following selections with authors where known: Amortization Schedule (M Folgers); and #2 (J Roche); Compound Interest (C Good); Estate Tax Securities (R Shumaker); Debt Calculator (K Romstedt); Financial Math (C Ehninger); Financial Statement Ratio Analysis (C Colton); Investment Analysy (A Robertson) AND 15 more!

Just the work and time involved in ther collecting, reviewing, selecting, debugging, sorting, creating full disks, cataloguing, printing. and distributing must be incredible. To charge $1.50 a disk is the greatest TI giveaway of all times.

Order the catalogs today; then, after you wipe the drool off the table, order as much as you can show Mr TI how much you support his endeavors. TIGERCUB Software, 156 Collingwood Ave., Columbus, OH 43213.

*(If you use NEW/AGE99 please put me on your exchange list.)

-----*JOYSTICKS*-----

Just received! (WHITE) TI Joysticks. Yes that's right WHITE or Beige if you prefer. Shaped like the black ones, they have a violet fire button and a dark grey stick. These are not painted. Most people didn't know they existed. Every TI user should have at least 1 set. Only $10 plus $3 shipping. Jim Lesher, 722 Huntley, Dallas TX 75214 or call 214 821-9274