NEWSNET99ER

VOL 8 NUM 12 DECEMBER 1990

NEXT MEETING : SATURDAY JANUARY 5TH

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

CLUB OFFICERS

James Crosson	President
Tom Collins	Vice Pres
Lee DeForest	Treasurer
Charles Bathman	Secretary
Barbara Massey	NL Editor
Tom Collins	BBS Sysop

NET99ER BBS 300/1200/2400 7E1 24HRS
457 7043

Newsletter of the North-East
Tarrant County TI-99/4a and
Myarc 9640 Computer Users Gr.

NET99ER HCUG
P.O. BOX 534
HURST, TX. 76053

Dallas TI Home Computer Group
P.O. Box 29863
Dallas, TX 75229

page

------THE PREZ SEZ------

As in all things there is a time to begin and a time to end, and it is my time to bring my tera to an end. Yes, it is finally my time to hand the torch of leadership or folly whichever you prefer to the newly elected, which should happen at this coming meeting. As I have stated earlier, I will still run for vice-president, but that is not to say that someone else should not run for that office, for I will be just filling a slot should someone else really want the job.

I would like to take this time to thank some of the people that have helped me run the club this past year, namely ..... Charlie Bathman, Tom Collins, Jo Nell Thompson and many others, but a very special THANK YOU to Barbara Massey and as always Lee DeForest.

I realize this coming year is starting off not so good, with the economy the way it is and the membership down and so many things that we used to count on suddenly gone or transformed to something we no longer recognize, but isn't it nice to know that our little machine is still there and still clicking away. While so many other computers are gone and forgotten and ours is still alive a good five years after its predicted demise.

I have high hopes that we have yet seen the best we can be, for under new leadership there is new hope and fresh ideas and greater endurance. If you know of someone that has a 4a hidden away in the closet and not being used, how about inviting them to the meeting so they could join us in learning how to best use our machines. Not only will you be helping your club, but you may possibly be giving them their greatest gift, think about it.

I need to close now, but do try to attend the next meeting if you can and help us elect some new officers for this coming year, for this is your club, see ya there Sat Jan 5, 1991 in the Community Center of North Richland Hills at 9:30 a.m..**James**

------VP/SysOp's RAMBLINGS------

The end is near.....the end is near!!!!! No not the end of the world, (I think), but the end of the current officers tenure. So be sure to attend the next meeting for the election of the new club officers. This coluan will be short!!!!!!

See, I told you.....NO CARRIER..... CLICK!*** Tom Collins!**

------MINUTES OF NET 99er MEETING of December 1, 1990------

We had 17 members present. James called the meeting to order. First topic brought up was nominations for next years club officers. Voting will take place during January's meeting. Barbara Massey has accepted the President's position, James Crosson can not run for President, and would prefer not to be an officer, but will accept the Vice Presidency. Lee DeForest will once again handle the duties of Treasurer, Tom Collins has volunteered to be Secretary, and Bill Duncan will accept Member At Large. Ken Dominiec has resigned as Chief Librarian and Tom Collins volunteered for the position. (Jeff has volunteered to update the lending library and Tom gracious withdrew his acceptance.)

Minutes from the last meeting were read and accepted. Lee gave last month's treasury report and it was accepted.

The change of philosophy for computers was discussed. 1) Chips that are very fast are not being used. 2) Technology (speed-not ?) will change. 3) Programs should get better, and computers better, not necessarily faster.

We found out the the BBS is down due to technical problems, but should be back up by the 8th of Dec.

The 128K Ram Chips are available through James which can be used on the Series 3000 Horizon Ram Disk.

As promised, James gave a demonstration of what the Geneve is capable of and why it's owners love it. The demonstration was very informative and too short. We need to see more of the Geneve!

James then demoed the DOM. A cShell99 program demo, a Disk Manager 1.3 version for the Geneve that has the Find string feature.

During the demonstration we again had problems with the monitor cable and Jim Lesher donated a new monitor cable for the club. He would not accept any payment for it. Thank you Jim, we will now be able to view the future demos without the aggrivation of the past. Again we all thank you.

We had a short Buy-Sell-Swap session followed by a break. The rest of the meeting was used to copy disks from the libray. **Submitted by Charlie Bathman-Secretary**

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

The tresurers report for Dec is as follows. We started the month with $767.07 we had an income of $286.00 and expenses of $201.18 leaving the club with a total of $851.55.*** Lee W. Deforest***

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

There are no members that need to renew their membership in December, but we still have a number of those who are past due in renewing. 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 quit 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.

We also have MICRJpendium subscriptions that need to be renewed this month. Check with Lee DeForest for your expiration date.

----------EDITOR'S INPUT----------

The BBS is back up and running again. I want to thank Tom Collins for all his time and hard work involved in keeping our BBS going. Let's all give Tom our thanks, and let's show our support by calling.

Jeff Drinan has volunteered for the difficult and very time consuming job of updating our lending library. Those of us who have tried to copy programs lately have notice many disks are missing, and many disks are unusable. Jeff is going to be both the Head Librarian, and the Lending Librarian since it is hard to keep the lending library current and error free without the master copies close at hand. This is a job very few would even dream of trying. Thank you Jeff. Also I would like to thank Tom Collins for his offer to take over for Ken Dominiec.

JoNell Thompson and Bill Duncan have volunteered to call some of our stray sheep, so to speak, and invite them back. Maybe this will get some of our ex-members to come back.***BAM***

BUYERS BEWARE-BUYERS BEWARE-BUYERS BEWARE

For those of you who have no heard, I won the Christmas Grand Prize on KLUV. One prize, and the one I was most excited about was to COMPURIZE Computers. They have three locations, two in Dallas and one on Hwy 121 next to North East Mall. The certificate stated, and I quote "...you have won an Apple MacIntosh Classic personal computer valued at $999.00 from COMPURIZE Computers". I called and spoke with Randy Wayman and told him I did not need a computer, I already have one, but would like to trade this in for $999.00 worth of hardware. Randy said there was no problem and to speak with Tae Choe (Chow?, one of the two) and that I could pick the hardware up at the Hurst location. Wanting to make sure everything would work with my computer, I asked James Crosson to check out a printer and hard drive I was interested in. He made one trip, and then we made another trip together and told them what I wanted. A printer, color kit, and a hard drive. The total was just under $1100, I would pay the difference of course. We had to make another trip because the equipment had to be brought in from Dallas. When it came in I gave Tae Chow (Choe?) the letter and suddenly everything changed. Suddenly the printer was worth $995. James could buy it for under $600, but for me the price was $995.00. PLUS, they came right out and said that Apple gave them the "Classic" as a promotional giveaway, becasue they were no longer being

made, they we obsolete, plus worth only about $400. Big difference here! In the letter they say it is worth $999, and of course KLUV not knowing otherwise sets taxes I must pay at that price. When James called Randy, I don't have a Dallas line and James was kind enough to try to save me some money here, Randy was very, very rude, and after putting James on hold for over 5 minutes, hung up on him. Then when James called back, Randy told him that he was busy, that he did not have time to talk with James or me, tho if I wanted to I could call but he wasn't going to even call me to try to work something out. James was told that Randy didn't have to "give" me anything, that this was out of the goodness of his heart (? a tax write off, promotional give way is out of the goodness of his heart ?) and very rudely, and very unprofessioraly told James that I could take the computer (worth less than $400 and pay taxes on a full $999) or take the printer or in not so many words stick it, he didn't care and wasn't going to do anything about it. KLUV is not to blame in any way. COMPURIZE told them the computer was worth $999.00 and that is what they were saying over the air "...an Apple Macintosh Classic worth $999.00 from COMPURIZE Computers".

How can a company sell you a printer for $600 and "sell" me the same printer for $995? How can a company say something is worth $999.00 on both a written letter and on the air, and then tell me in person that it is not even worth $400, and that they are just trying to get rid of them because they aren't being made any longer? How can a company sign a promotional contract worth what they say is $999.00 and have me pay taxes on $999, and tell the IRS it is worth $999.00 and then tell me in person that it isn't worth $400.00??? How can anyone want to do business with a company like this? They tell you one thing, and then you find out it is something completely different. Do you want to trust a company like this?

I want to say that this is an editorial, and my opinion only. That I personally will never do business with this company, and hope that you do not have to find out the hard way just how they treat their customers/customers to be. So remember - BUYER BEWARE of COMPURIZE! BUYER BEWARE of COMPURIZE!***BAM***

----------FAST TERM MODE----------

by Jim Stewart

When Fast Term comes up on my screen, the flashing 3 annoys me, because it does not agree with the 1200 baud my modem operates at. But I've been too lazy to change it...well, not so much lazy as ignorant. Luckily John Crevistcn told me how to edit it, and it is really simple. First load your Disk Utils program and determine if your Fast Term program is listed as FT and FU or if there is a third part titled FV. Once you know this, load the Find String option under File Utilities in Disk Utils. You will need to tell it

the name of the file, which drive the Fast Term program resides, and that it is an ASCII string you are searching for. Type in "DSK1." and ignore the second prompt for now. Enter. Next press enter again to accept the E default for Edit. Now you can use the arrow keys to position and correct the E to F, or the drive number could be changed if necessary, but only in the second DSK1. location As soon as you are satisfied with your change, press Control W and enter. Next use Function 9 to return to the menu, and you have just completed this modification. Easy when you know how...right?

Copied from the Dallas 99 Interface, May 1990

------TI-WRITER------

by Stan Katzman

PART 3

Up to now we have created a file and have made corrections of any errors produced. The next thing we have to do is save the file to a disk so we can use it in the future if we so desire. (Later when we get into the Text Formatter the document must be on a disk.)

To save a document to a disk do the following: 1)Get TI Writer Editor, 2)Remove the program disk, 3)Insert a formatted disk for your document, 4)Compose your document. Now we will save your document and here is how.

At the end of your document go to the command mode (Fctn 9) and now type F <enter> for Files. You will now see a menu of "LoadF, SaveF, PrintF, DeleteF, Purge or ShowDirectory". Now type SF <enter> and you will now see "SAVE FILE, enter filename:" at this point for a one disk drive system type DSK1.filename <enter>. For "filename" type anything you want to call the document. Your document will now be saved to the disk. When the "saving" process is finished you are returned back to the Edit mode in your document. You can now add or change you document and when you go back to the "SAVE FILE, enter filename:' section you will see the last entered filename and all you have to do is press <enter> and your entire file will be saved under that name.

IF you want a different filename you can change it, if you so desire.

We can also only save part of a file, if we so desire. This is done the following way: At the "SAVE FILE, enter filename:' enter the starting line number, a space, the stop line number, a space and then DSK1.filename. The starting and stop line numbers are seen on the left of the screen. For example you could enter 32 45 DSK1.LETTER and you will only save the material starting at line 32 and ending at line 45 to the disk.

By the way you can "get rid" of the line numbers on the left by pressing Fctn 0 (zero). To get the line numbers back press Fctn 0 again. This is called "toggling". We can now save documents to disk (very important). More next time.

------TI MULTIPLAN v4.0------

by Audry Bucher

I just received in the mail this week, (May 1990) the new Fairware enchancement of the TI Multiplan Package by R A Green of RAG Software. The updates have been made to the Multiplan version released by Texas Instruments to all User Groups.

The disk is a floppy and contains the standard version for those who use the MP cartridge. The flip side is for Gram devices (PGRAM or GRMA KRACKER).

Features include:

1. Almost a 50% reductin in run time.
2. Patches documented for default filenames.
3. Slight changes in entering default disk, so as to accomodate Hard Disk Users.
4. An MP Startup Loader for RAM Disk or Hard Disk users.
5. Patch documented for setting screen colors.

I compared. the recalculation of a large spreadsheet, using the old version and RAG's new one and did indeed find the new one much faster.

Simply copy the files, MPBASE, MPCHAR, MPDATA, MPINTR and Overlay to your old MPlan disk and youare ready to go. In an article I wrote on MPlan in the December 1987 issure of the Peripheral, I mentioned that the time it takes to initialize MPlan and the response time when it is working with the overlay file is affected by the location of the files on the disk. I don't know if this holds true for the version 4.0, however, I did copy my files one at a time in the following order. Overlay, MPHLP, MPCHAR, MPDATA, MPINTR, and then MPBASE.

I really dislike white characters on a dark blue screen and always hit the space bar eleven times before loading the MPlan disk, so that I have black characters on cyan. Imagine my surprise, when after doing this, MPlan V 4.0 loaded with white characters on dark blue. I wasn't pleased with that.

However, included with MPlan V4.0 is a public domain program called Ragpatch that will lay assembly patches into your program.

In his review in the March MICROpendium, Harry Brashear mentioned that he had read the docs for RAGPATCH, and couldn't understand a single word of them. Needless to say, when I read the docs, I didn't understand them either.

But since the desire to change my screen color was so great, I decided to brave it and use the patch included on the disk. I loaded SETUP/STD into Funnelweb and proceeeded to change the screen color for F4 to 17. While I was at it, I also edited the Default drive to DSK2. I saved the file and the loaded RAGPATCH thru the option 5 loader (Program file).

Presto, in a matter of seconds, the patch was made. Now I no longer need to use the space bar to optain the colors I want and no need to use a sector

editor to permanently change the default drive.

I'm sure I will never write a patch (Which is what the docs for RAGPATCH are explaining) since I don't understand assembly language. However, I was happy to have a patch available to edit and use. Also included is a patch for setting up Hard Disks and RAM Disks.

If you use MPlan, I'm sure you will appreciate version 4.0. It is available from: RAG SOFTWARE-R # Green; 1302 Chantenay Dr.; Gloucester, Ont. Canada, K1C 2K9

Copied from The PUG Peripheral, May, 1990

-------USING A MODEM-------

by Dick Berry

This is the first in a projected four part series of articles about using a modem with your TI computer. Our new newsletter editor, Bill Wood, has asked me to write such a series to encourage more people to use modems and to help them get started. Several years ago, I wrote a similar series for this newsletter, but that information is largely out of date. So this will be an all-new approach.

Even if you don't own or use one, chances are you're familiar with modems. Basically, a modem allows a computer to send and receive information over a telephone line. This information can consist of messages and other text files (for instance, this article was sent from my computer to Bill's over a modem), games and other types of programs, and even graphic images.

As you are probably aware, computers use digital processing, which means that all information is reduced to a series of ones and zeros. On the other hand, telephone lines transmit audible (sound) information such as voice and music. The modem serves as a "trarslator" between one type of information and the other. When you send information over the modem, it translates the computer's digital signals into audible tones, and when you receive information, it converts the audible tones sent by another modem into digital signals that your computer can understand.

Types and prices of modems can vary widely, so it helps if you belong to a computer's user group or have one or two friends who are knowledgable about modems before you run out to buy one. If you purchased a used TI99/4A system, it may have included Texas Instruments' early acoustic modem. These modems are equipped with a cradle in which you put the telephone handset. The modem creates audible tones that are picked up by the microphone part of the handset and listens for tones coming back through the speaker portion. Although these acoustic modems are no longer made, there's nothing to prevent you from using one. But they do depend on a tight seal between the telephone handset and the modem to ensure proper data transmission, so you may want to try several of your phones with the modem to see which provides the best fit.

The majority of modems made today are of the direct - connect type -- the modem plugs directly into your telephone line and usually has another outlet so that you can plug a standard telephone into the modem. These modems tend to be more reliable, since they generate audio signals internally and don't depend upon a telephone's microphone and speaker. In fact, with the right software for your computer, you can use some of these modems without even having a telephone hooked up to the line.

Modems are usually classified by the maximum speed at which they can send and receive data. This speed is measured in bits of information per second, or "baud". Earlier modems, much as the TI acoustic, could transfer information at 300 baud, which meant that 300 ones and zeroes were going through the phone line every second. To give you an idea of what that means, this article would have taken about five minutes to sent at 300 baud.

Nowadays, many people find that speed too slow, especially if the call is long-distance. Over the past several years, 1200 baud has been the most common transmission speed, and many computer users have gone to 2400 baud. I recently got one of the 2400-baud models myself and it makes quite a difference. Instead of taking five minutes to send this article at 300 baud, it takes a little over a minute at 1200 baud and only about a half-minute at 2400 baud.

However, all that speed can sometimes be a liability. When you're trying to read information as it comes across the screen rather than simply saving it to a files, it can be difficult to keep up with the higher baud rates. In fact, you may find 300 baud much more comfortable to use in the beginning. Higher-speed modems usually can operate at lower speeds as well, so you could buy one of these, run it at 300 until your familiarity and reading speed increase, and then utilize the higher baud rates.

Why would anyone want to use a modem in the first place? That's a question that may seem important now, but believe me, when you become familiar with the amount of information available over your phone lines, you'll be wondering how you ever got along without one.

Think of it this way. Without a modem, you are restricted entirely to the computer equipment and the programs that you own. When you connect to another computer by modem, you have access to the information that computer contains. And when you tie in to a computer service available to many computers, you can call on the resources of every other user of that service.

The range of such computer services is impressive. For instance, some banks now permit savers to get a current balance, transfer funds from one account to another and even make some utilities payments directly by computer. In addition, many libraries are now using computerized card catalogs, and some permit the public to access the catalog by modem. The Public Library of Columbus and Franklin County allows patrons to make selections from its

catalog in such a manner, and reserve material to be picked up later in person. The Ohio State University, in combination with the State Library of Ohio, also makes its catalog available by modem. More specific information about these types of services will appear in part two.

A number of other computer services are available on a subscription basis. The largest of these, CompuServe, is based right here in Columbus. These services offer public domain and shareware programs, reference information on a variety of topics, and even shopping areas where you can purchase items over the modem.

The most commonly used computer services, however, are local bulletin board services, so named because they serve as electronic bulletin boards for computer users. These services, usually known as BBSes, are run by computer enthusiasts for computer enthusiasts. They offer areas for users to leave messages for one another and typically include libraries of non-comsercial programs that can be "downloaded" right from the BBS to your machine. Interested in getting the latest version of a shareware word processing program for your computer? Just dial up the local BBS and download the program to a disk. Have a question about how to use the program? Leave a message for other users. Chances are, someone else has faced the same question and come up with an answer.

Some BBSes even offer games that you can play "on-line" (while you are connected to the BBS via modem). People who work in specialized areas, like genealogy, can access the findings of others through on-line databases.

One of the most interesting and fun experiences in modeming, according to many people, is interpersonal contact, one on one, through the computer. I have recently helped several people learn how to do this and invariably they have remarked, "This is really fun! I didn't know how much fun it could be!" All we were doing was sending some programs I had and they didn't over the modem (public domain or fairware, of course) and typing messages back and forth. They found it thrilling to type something and have me immediately type a reply to them. While voice communication is in some ways easier, seeing written communication on the screen can clear up any confusion about terminology and correct spelling. But I think the main attraction is finding a whole new way to communicate with others. Many bulletin board services offer users the opportunity to "chat" with the system operator this way.

All right, so now you know some of the things that communicating by modem can do for you. The next question, of course, is how much does it cost?

Your start-up expenses will include the cost of a modem and whatever interface is necessary to connect it to your computer. We'll have more on this subject in upcoming segments, but for now you only need to know that a modem doesn't have to be very expensive. Even high-speed models are available for less than $100. Communications software is also inexpensive. Fairware

programs for the TI typically cost about $15-$20.

And it doesn't have to cost you much to use that equipment. Currently, modem access to telephone lines is free of extra charge unless, of course, you're calling long distance. However, telephone companies in some areas of the country are attempting to impose a surcharge for modem usage. BBS operators, national database managers, business users, etc., are attempting to combat this, but it's unclear how this issue will be resolved.

Columbus-area TI users are lucky in that there are three BBSes specifically for the 99/4A-Geneve in the local dialing area. If you are already a modem user, you can call (614) 263-3412 to to log on to the Spirit of 99 BBS (the CONNI club's official board); (614) 442-1852 to get TIABS, operated by Bud Wright; and (614) 268-1994 for Chuck's BBS, operated by Chuck Grimes. Long-distance users please note: Columbus is not currently available on the PC-Pursuit network, but can be accessed via Starlink. If those names are unfamiliar to you, don't worry -- part three will contain further information.

Finally, remember; Using a modem can get you important information to enrich you life and expand your horizons, but it should also be FUN! Plan to enjoy it!

Copied from NH99ers User Group, April 1990

------TAKING THE "BUZZ" OUT OF BUZZ WORDS------

by Alan D. Applegate

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:

eSoft, Incorporated
15200 E. Girard Avenue
Suite 2550
Aurora, Co 80014

Part 1: The Basics of Modems

The world of computers is riddled with buzz words -- technical jargon for the various parts of computers, their functions, and applications. In telecommunications it's the same thing. Terms like Baud, Bits, Parity, MNP,

Half Duplex, and Full Duplex can make a TBBS system designer's life seem more complex than it really is. The problem is, these buzz words are attached to many of the components and concepts that a TBBS system designer must grasp to make the most of online system implementation and even to explain a system's operation to its users.

Fortunately, most telecommunications terminology isn't hard to understand -- once it's been explained by someone who knows what the terms mean and can speak English clearly enough to break them down in understandable language. Alan Applegate is just such a person and we at eSoft are lucky enough to have him on our technical support staff.

In the following special three-part series, Alan will tackle many of the common telecommunications buzz words you'll encounter as a TBBS system designer and bring them a lot closer to home with straightforward, plain-English definitions and step-by-step explanations... Ed.

Modem Standards

No doubt you've wondered at one time or another about modem stardards. There are currently several active standards, and they involve more than just the modem's actual operating speed. Without these standards, modems from one manufacturer most likely couldn't "talk' to modems made by another manufacturer. Consequently, at least a basic understanding of modem standards is also necessary if you want to make the right choices when selecting modems for use on your TBBS system.

Generally speaking, 300, 1200 and 2400 bps modems each use a different standard that is adhered to by all modems and modem makers. (It should be noted that standards for 300 and 1200 bps are different in the United States than they are in Europe.)

Standards for 9600 bps transmission have been established for some time, but the technology to implement those standards was, until recently, expensive. To get around the high cost of using the existing standard, modem manufacturers have created several of their own proprietary high-speed modem standards. This is why so many high-speed modems will only "talk" to another high-speed modem of the same brand.

Data transmission speeds, however, are not the only type of modem standard. Actually, modem standards are grouped into four distinct areas or "layers." These are shown in the illustration below:

Modulation

Modulation is the starting (or bottom) layer for all modems ("modem" means MOdulator - DEModulator). Each layer builds upon the next.

Modulation refers to the signaling method that is used by the modem. Two modems must use the same modulation method in order to understand each other. Each data rate uses a different modulation method, and sometimes there is more than one method for a particular rate. An example of this is the Bell 212A

and V.22 modulation standards (described below); they both specify 1200 bps modulation, but they work differently, and are not directly compatible.

Negotiation

Negotiation refers to the manner in which two modems establish which modulation method will be used during a connection. Modems "listen" to the tones sent by a remote modem to determine what modulation method will be used. Since different modulation methods often use different answer tones, these can be used by the calling modem to determine which method to use. Negotiation standards have been created to make the process easier. These standards dictate the sequence of events that will occur when a modem answers the phone, eliminating the guesswork associated with the "listen to the tones" method. Negotiation is part of many modem standards.

Error Correction

Error correction refers to an ability that some modems have to identify errors during a transmission, and to automatically re- send data that appears to have been damaged in transit. If error correction is used, both modems must adhere to the same error correction standard to make it work. Fortunately, there are error correction standards which are followed by most modem manufacturers.

Data Compression

Data compression refers to a built-in ability in some modems to compress the data they're sending, automatically "squeezing" data to a smaller size as it is sent. This, of course, saves time and can result in considerable money saved by long-distance modem users. Depending on the type of files that are sent, data can be compressed by as much as 50% of its original size, effectively doubling the speed of the modem.

In this scenario, a 2400 bps modem with data compression is capible of sending some files as quickly as a 4800 bps modem WITHOUT data compression. Not all types of data can be compressed by 50%, but gains can nearly always be realized.

We'll take a look at each of the various data compression standards later in this series, but first let's examine those modem standards that are associated directly with the transmission speed of the modem.

Standards for 300 and 1200 Bps

Most 300 bps modems follow the standard created initially by AT&T, called Bell 103, and are common in the United States. Most modems manufactured for use outside the United States support the CCITT V.21 standard instead, and are not compatible with Bell 103 modems. Some modems can be set to follow either standard.

AT&T also created the Bell 212A standard for 1200 bps modems. It's become the common standard in the United States. Most modems manufactured for use outside the United States support the CCITT V.22 standard instead, and are

not compatible with the Bell 212A modems. Some modems can be set to follow either standard. Most modems manufactured since 1985 are capable of differentiating between the two standards, and can effectively handle either one.

2400 Bps Standards

The international standard for 2400 bps communications is CCITT V.22bis. This is used by modems manufactured for use both inside and outside the United States. Most 2400 bps modems include automatic detection of the data rate fall back, if a data rate lower than 2400 bps is detected at the other end of the connection.

9600 Bps Modems -- Are There Standards?

Contrary to what might be believed, standards for high speed data transmission have been in place for some time. Acknowledged standards came in two forms -- a half duplex standard, commonly used in fax machines and called V.29, and a full duplex standard called V.32 (we'll take a look at half and full duplex later in the series). The technology required to implement the V.32 standard remained prohibitively expensive for many years. This forced most modem manufacturers to create their own less- expensive proprietary transmission methods.

U.S. Robotics, for example, created the Courier HST, ("High Speed Technology"). This design is not full duplex, meaning that it does not support high speed transmission in BOTH directions. Current HST modems send data at 14,400 bps in one direction, and 450 bps in the other direction. The high speed channel changes direction depending on which side of the transmission has the most data to send. HST modems can only talk at high speed with other HST modems, although they also adhere to existing standards for 300, 1200 and 2400 bps operation.

Telebit, another modem manufacturer, created PEP ("Packetized Ensemble Protocol"), which is used in their Trailblazer modem series. Like the HST, PEP modems will only connect at high speed with other PEP modems.

Hayes also developed their own technology for high speed transmission, in the absence of an inexpensive standard. Like the others, Hayes high speed modems only talk high speed to other Hayes modems.

Fortunately, the cost of V.32 high speed transmission technology has come down drastically in recent years, and is displacing other high speed proprietary protocols in popularity. This means that, finally, high speed modems are starting to communicate with a common standard. U.S. Robotics' new Courier HST Dual Standard is one example of a new high speed modem utilizing both U.S. Robotics' own HST transmission standard and the V.32 high speed standard. The new Hayes V-series Ultra Smartmodem 9600 is another "multiple-standard" high speed modem that utilizes the V.32 standard.

Next month we'll discuss the CCITT and the international

telecommunications standards that are set by this prestigious committee. We'll even de-mystify the whole family of MNP standards. Also we'll examine the data compression standards. What works, what doesn't and what is realistic to expect from data compression in a modem? MNP vs. V.42bis -- don't miss it!

Next month: Part 2: Modem Standards

------CEOTICS90K29------

by Jim Lesher

CEOTICS: The Cutting Edge Of Technology In Computers

THE ULTIMATE COMPUTER, The laser computer may be closer than originally thought. At Bellcore labs scientists have achieved surface lasers the size of a grain of sand. If you think that is incredible, 30 individual laser beams can be emitted from the same surface. A new kind of electronics using 'Quantum Devices" is the heart of the above achievments. First we had miniture several years ago, then came subminiture, at the present we could say we were in the micro miniture era. Next, will be the Quantum era. This stuff sounds like science fiction, like the device they have for counting individual electrons, can trap an electron in a 2 dimensional space or trap and make it a laser. They can even control the size of the box the electron is in, which in turn determines the wavelenght or the color of the laser beam. So using such molecular sized devices to build computers, the possibilities are enormous.

------ NEW-AGE/99 ------

by JACK SUGHRUE

Box 459, East Douglas, MA 01516

#4

Many of my computer correspondents have a basic 4A system upgraded to include a tape recorder and that's where they want to (or have to) stay. Though I could hardly imagine life without multi-drives, RAMdisk, upgraded controllers, and all the rest, computer life in the slower lanes is not all that bad. After all, Harry Wilhelms (E-Z KEYS) and Eric LaFortune (ROCK RUNNER) produced two of the most powerful items in TI software using just the tape recorder. In the process they both discovered unknown (and thus untapped) potentials of our great machine. Most tape sources have dried up: TUG, Ammion Helpline, Tigercub. User groups, Triton, Asgard, Texcomp, and Kidware are about the only regular tape sources left. Some user groups (like Lima and MUNCH) still have extensive tape libraries for members. TI fairs everywhere still have piles of tapes available. At last year's New England Fayuh, for example, I purchased a dozen new (still in packages) tapes:

BEGINNER'S BASIC TUTOR (from TI), far better to use with a novice or kids than TI's TEACH YOURSELF BASIC (which is too mathematical for most casual

users).

BEST COMPUTER COACH: TEXAS INSTRUMENTS (from Boston Electronic Systems Training) extremely clever. It comes with two cassettes - one with programs and data and the other an audio tape to listen to and easily follow along while computing.

LEMONADE (from Kidware), though less graphic than Apple's version, is many times better. I use both in my classroom. Kids prefer Kidware with more options and more intelligent control. All kidware tapes have Side Two. LEMONADE contains a super code-breaker game. Kidware stuff is lways good TI stuff.

THE WIZARD'S DOMINION (from American Software Design and Distribution Co.) fantasy adventure with a superb manual (unusual for adventures) making it a joy to play.

COSMIC CAVER (from CompuTech Distributing Inc.) timed space arcade game with twists, including a possibly-bottomless pit.

COSMOPOLY (from Not-Poluoptics) has got to be the most bizarre form of Monopoly ever devised. The setting is the Universe of the future and the options in this fast-paced, ingenious game are wonderful.

HAND-GLIDER PILOT (from Maple Leaf Micro Ware) up to four players test "gliding/landing" skills.

STARSHIP CONCORD (from Futura) another spaceship game with a good manual and so-so graphics.

MISSILE WARS (from Asgard) by John Behnke is one of the best of this genre on tape.

AZTEC CHALLENGE (from Cosmi) well-done, multi-level ancient obstacle course game that's fun and quick.

CAVERN QUEST (from Moonbeam) about as "acadey" as you'll get on tape and one of the best multi-level graphic obstacle games.

My final tape purchase that day, ROMEO (from Extenced), was lost or stolen after I gave a demo of it a few years ago. I'm not very good about making backups of my originals, unfortunately. By the time ROMEO disappeared, it couldn't be purchased anymore. So my joy at seeing one for sale at the fair was great. Cure Romeo has to get past a series of sand dunes via balloons, is unceremoniously dropped into a shark-ridden sea, swims into a dangerous cave, and so on in his quest for the fiar Juliet. It's one of those delightfully addictive, nonviolent games. Now a new generation (my fifth-graders) are discovering the joys of noble quests.

These twelve tapes are things I didn't own but now use and enjoy. Original prices on these items were from $49.95 to $9.95. I picked up most for under $2 (not counting the ones from Kidware and Asgard still being distributed today).

When I came across these tapes in class the other day, I realized how often the kids continue to use most of them, along with some other tapes that I have in large bookcase-style tape racks. Tapes get used a great deal: Jim Peterson's always exceptional educational tapes; Intellestar's (CELLS), early TI's (HAMMURABI, WORD SAFARI), and many others. I teach ASL (American Sign Language) in class, and the kids use the PD FINGERSPELL program to learn, review, write, and decode through the manual alphabet. This is in EVERY user-group library).

Last week we were studying the skeletal system. I put on Regena's 'Name That Bone". I often use the tape recorder on the disk-system TI I have at school, also. Once a program is loaded into memory, I take the lattle tape recorder to the next machine and repeat the process. Sometimes I bring a third computer in from home, but I still just go from one to the other with the same tape recorder.

But that day I loaded up "Name That Bone" by tape into the two TI's, and all the kids that day had a chance to successfully complete this great program.

There's no problem using tape. I load them into the computers before school, while I'm getting my stuff ready for the day. I keep the volume on the TVs high so I can hear when one computer has loaded; then I repeat the process for the others. By the time the kids arrive, I've had my coffee, put up the computer schedule, and we're all rarin' to go. I still think the 4A is the best educational computer tool in existence.

I often think about the users with the basic diskless systems. There are still tapes readily available for the Adventure, Tunnels of Doom, and LOGO modules (though the last requires 32K). Triton still has cassettes of all kinds for as low as $1.99. I just bought a SAMS book for $2.49 (TI-99/4A GAMES) that included a cassette of all the games. I usually pay more for the blank cassettes alone.

Peruse the mail order palaces to see the number of extremly low-priced MODULES still available. Triton's start at $2.49 and go up to $29.95 (for Extended BASIC). There are recreation (MOONSWEEPER, FATHOM, MUNCHMAN), productivity (PERSONAL REAL ESTATE, HOME FINANCIAL DECISIONS); education (READING FLIGHT, NUMERATION I); and other cartridges not listed by Triton, including the last of the Atarisoft ones like Donkey Kong.

So a person with a very basic 4A system (console, TV, Extended BASIC cartridge, and tape recorder) still has an extremely powerful tool at his or her command with options for many other diskless peripherals. But most early owners have closeted or tossed their TIs. Recently, I went to a flea market in a nearby town and picked up a used (but very new looking) silver and black console with cables for $3! That's what I'm writing this article on right now. So DON'T QUIT! Your 4A is alive and well and kicking up its heels all over the world.