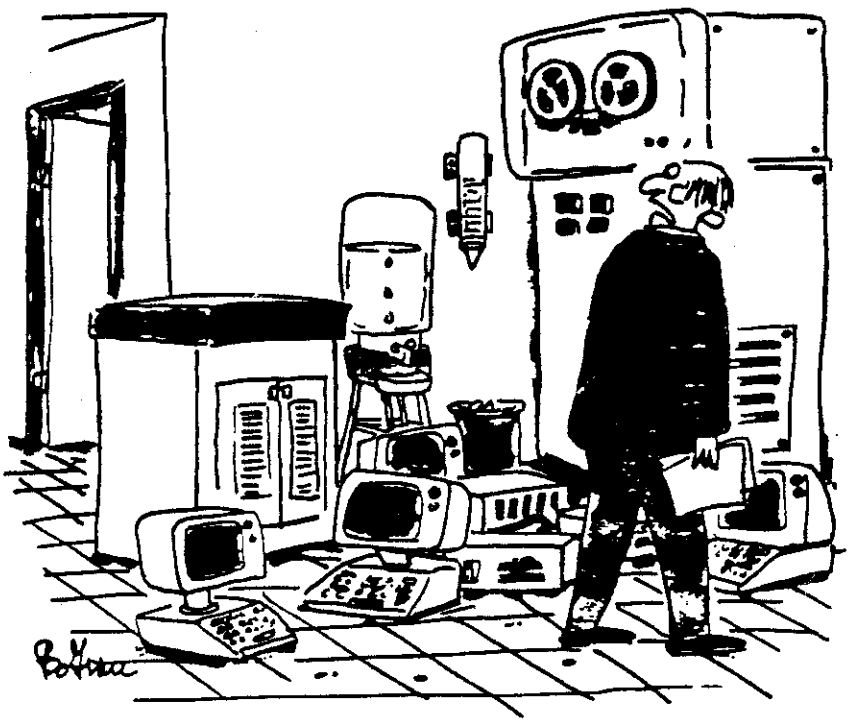
Newsletter Nine-T-Nine
October 1990 Issue

Texas Instruments
USERS GROUP
TORONTO

Meeting Dates:
Oct.25
Nov.29
Dec.13
At CRS



"Break it up!"

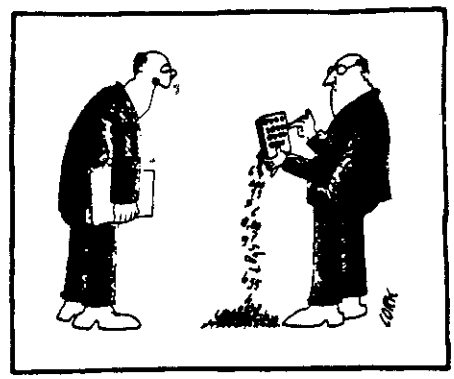
From:
9T9 Users Group
15 Kersdale Ave.
Toronto,Ont.,M6M-1C9
CANADA

To:

9T9 USERS GROUP EXECUTIVE COMMITTEE
PRESIDENT Steve Mickelson (657-1494)
VICE-PRESIDENT Neil Allen (255-8606)
SECRETARY/MEMBERSHPS Randy Rossetto (469-3468)
TREASURER/OFFICER AT LARGE Cecil Chin (671-2052)

LIBRARY DIRECTORS
Gary Bowser (960-0925)
Andy Parkinson (275-4427)
Steve Findlay (416) 727-6807
Erik Wiklund (416)827-4858

NEWSLETTER EDITOR
Steve Mickelson (657-1494)



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FULL MEMBERSHIP..... $30.00 / year
NEWSLETTER SUBSCRIPTION ..... $20.00 / year
DISK OF THE MONTH subscription,add... $30.00 / year
(Delphi Memberships add $3.00 for credit card fees)

All memberships are household memberships. A newsletter subscription is only for those who do not wish to attend meeting,but wish to receive our newsletter and have access to our library. You are welcome to visit one of our general meetings before joining the group. If you wish more information contact either our president, in writing, at the club address on the front cover or phone him.

The meetings are usually held on the last Thursday of each month,(exceptions are December's meeting date, usually mid-month and the months of July and August, when there are no meetings. Consult this issue of Newsletter 9T9 for the date and time of the next meeting. Meetings are usually held in the lecture room main, at Canada Remote Systems, 1331 Crestlawn Dr., Unit D, Mississauga ,(Eglinton Ave./Dixie Road Area), from 7:30 - 10:30 PM.

BBS
The 9T9 Users Group supports the Toronto BBS, The TI Tower BBS #(416) 921-2731, 300/1200/2400 BPS, 24 hrs. Sysop, Gary Bowser.

MAILING ADDRESS:
9T9 Users Group, 15 Kersdale Ave., Toronto, Ontario, M6M 1C9, Canada

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The rates are as follows. (width by height):
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HALF PAGE (7" x 5") $15.00
QUARTER PAGE (7" x 2 1/2") $ 7.50
Please have your ad's camera ready and paid for in advance. For more information contact the editor. Don't forget, that any member wishing to place ads, may do so free of charge as long as they are not involved in a commercial enterprise.

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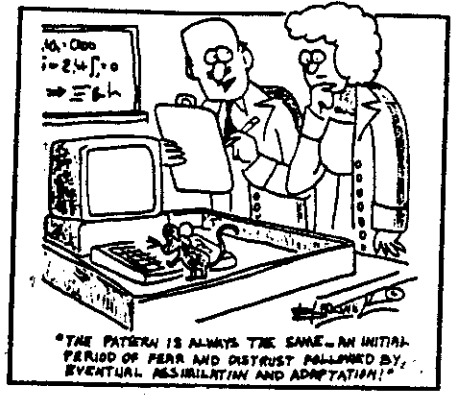
FAIRE UPDATE

The summer is over as you read this, and in only a couple of months, the eighth edition of the Chicago Faire will be here. This year there will be quite a few new features. Beginning with the name. It is now known as the Chicago TI International World Faire, to reflect the status and the character of our event. We will have attendees and vendors from the "four corners" of the world. Our World Faire will be the largest and the best-attended in the TI community.



Tidbits #42

-By Steve Mickelson, President 9T9 Users Group
Compuserve 76545,1255; Delphi SMICKELSON; GEnie S.MICKELSON

'The Only Thing That's Permanent Is Change'....
Or so the song goes. And there are a few changes to announce for the 9T9 Users Group:

1/New Meeting Place! Thanks to the new owners at CRS, we are invited to return and use their meeting room for our meetings. CRS,(Canada Remote Systems), was reorganized after being purchased, is still located on Crestlawn. 9T9 Members should have received notification by phone from one of the group of callers, headed by Randy Rossetto regarding the October 25th meeting. Future meetings will take place on November 29th and December 13th, at the old times (7:30 - 10:00 PM).

2/New Mailing Address! This is an advisory to exchange newsletter Editors and all others who correspond with the 9T9 Users Group, that our mailing address is changed:

9T9 Users Group
15 Kersdale Ave.
Toronto, Ontario
M6M 1C9, Canada

For the next month or so any mail sent to the old address will reach us, but we ask that you please update your files. This new address, will save the club considerable monies, paid to maintain the private postal box.

3/In 1991, 9T9 Disk-Of-The-Month may be discontinued. Although there are considerable amounts of updates, Andy Parkinson reported at last months Executive meeting, that the lack of new shareware may make it necessary to reduce the 9T9 D.O.M to quarterly releases or drop it altogether in the new year.

We already have some version of most shareware in the library, and unless there is some drastic change in a new release of a current piece of software, it defeats the whole purpose of 'shareware concept' if users do an end-run around the author and avoid paying a registration fee, and, instead, obtain software updates from the user group for the mere cost of a copying fee!

However, the fall fairs in Chicago and Milwaukee may bring the usual resurgence of new shareware in the TI community.

4/Newsletter Changes. The anticipated January 1990 Postal Rate increases and the current shipping weight of each issue of the newsletter have caused Randy and I to discuss how to provide the same quality without boosting the subscription prices. It seems that at twenty pages, the newsletter is marginal, as far as being within the weight class for the postage we pay.

This problem can be resolved in two ways; (1) pay more postage, ie double the mailing budget ; or (2) put the newsletter on a diet.

The first solution was discarded immediately, as it would increase the subscription rates, without any increase by Canada Post, in their rates!

There are two ways to lighten the newsletter; (1) use lighter weight paper stock than the #20, that we currently use; or 2/ cut back a double-sided page, to bring the weight of each issue of the newsletter to within the lowest weight category.(Why does this sound like an'and-gate' vs 'or-gate' logic puzzle?).

So we decided to reduce the newsletter to 18 pages maximum. However, we can still provide twenty plus pages of newsletter, within 18 physical pages.

You may have noticed, that the last several issues have contained several articles, conference transcripts and programs printed sideways, (landscape), instead of upright (portrait) format. I have used a utility that doubles-up two 80 column pages on a single page, with a border around it, on the laser printer.In the past, I have used this utility to reprint articles which would have been prohibitively long for this newsletter. As there have been no complaints, I will continue to use this technique, as well as photo-reducing some articles and press releases from other exchange newsletters, to achieve the under-eighteen page limit.

Radio Shack Bargains....
From time to time, I have reported various computer-related hardware and software bargains, with Radio Shack frequently being the source of such specials. On a recent visit to a local R.S. store, I noted that it had a sidewalk sale bargain bin full of heavy-mil plastic dust covers, sold for twenty-five cents apiece! This stock

appeared to be both discontinued and surplus stock. I have decided to provide a chart of the cover catalog number, what use it was intended, and how a TI user could use it:

R.S. Catalog #	Intended Use	TI Use
26-543	Tandy 1000 EX Cover	Small Pinter or TI Console with Widget
26-542	Color Computer Disk Drive Cover	Covers a stand-alone disk drive
26-506A	Model 4 (or Model III) Cover	Will easily cover a 14" monitor
26-531	Radio Shack Thermal Printer Cover	Speech synthesizer or Hexbus peripheral
26-517	CCR-81 Cassette Recorder Cover	Corcomp Micro-expansion system
26-530	DMP 105 Printer Cover	TI-99/4A Console
26-537A	DWP-230 or DWP-220 Printer Cover	Any 15"-wide printer

I'm not sure whether all Radio Shack store are clearing the above dust covers at the above prices, or if they can be ordered still, but if available, you at least have an idea what size the cover is, without removing it from the package.

Windows Not Open, Yet!
Although I have received my copy of Windows for the Geneve, I won't be able to demo. it at October's meeting, as I reported to Toronto Computes,(see current issue). I have yet to load the Windows software onto a Horizon RAMdisk, so as to run it and my Geneve card at a future meeting.

Last Meeting:
Gary Bowser gave an interesting talk re: the Morningstar CPM card and 128K RAM disk cards. It seems that the both cards, are in fact the same card, with the CPM card having a Z80 CPU and EPROM, with 64K of RAM; and the memory card having just the 128K of RAM,(with no CPU or EPROM).

Gary felt he could improve and update the card's design, which uses the TI Systems RS-232 and disk controller, so that a state-of-the-art card could be made by OPA, to run CPM software at a much faster speed. It would allow the TI to easily run any Adam software, as well most other CPM programs, as well! .

Well, I'm out of time and space for this month!

SEPTEMBER 20 1990

BILL BEASLEY
13 CARDIFF CT.
WHITBY ONT.
L1N 5N8

416-668-9738

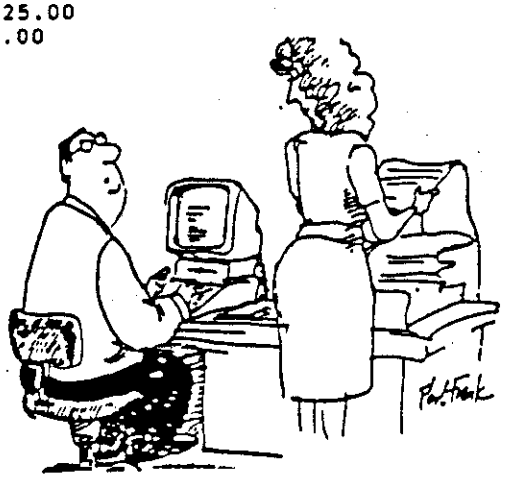
STEVE MICKELSON
15 KERSDALE AVE.
TORONTO ONT.
M6M 1C9

DEAR STEVE
FURTHER TO OUR PHONE CONVERSATION, PLEASE FIND BELOW THE LIST OF GAMES AND "TI" EQUIPMENT I HAVE FOR SALE. THE SUGGESTED PRICES ARE NEGOTIABLE, AND AN OFFER ON A COMPLETE PACKAGE DEAL WOULD BE CONSIDERED.

TI994A KEYBOARD $25.00
SET TI JOY STICKS $10.00
SET ATARI JOY STICKS & ADAPTOR $20.00
TAPE DECK & ADAPTOR $20.00
SYNTHESIZER $25.00
GAMES CASE $5.00

TI GAMES 20.00 EACH
PARSEC
SNEGGIT
A MAZEING
TI INVADERS
TOMBSTONE CITY
THE ATTACK
DONKEY KONG
MUNCH MAN
CAR WARS
BURGER TIME
JUNGLE HUNT
JUNKMAN JR.
HANGMAN
SEWERMANIA
MINUS MISSION
HOUSEHOLD BUDGET

REGARDS



You know that Virus that was in the computer? Well the bug in this program just ate it.

HARDCOPY

by Steve Findlay,

Well, it's been a while since my last appearance. Due to the fact that my wife and kids are demanding more of my time, I have not found the time to complete as many columns for the newsletter as I would like. I really don't expect this situation to change in the near future.

I have just finished reorganizing the newsletter binders again. The club's collection now fills 31 binders. This makes it impossible to transport the whole collection of binders and books to each meeting. If you are interested in any particular book or magazine or binder, please consult the index that is in the library box at each meeting and any desired items that are not available can be reserved for the next meeting by talking to myself or calling me at home a few days before the meeting. As I live in Aurora, anyone calling from the lakeshore to Steeles Ave. and Markham Rd. to Hwy #27 is calling from within the local calling area. Everyone else would be long distance. I do have an answering machine, so leave a message with what you want or your phone number and I'll call you back.

With all the hardware announcements for the 4A recently, the TI community is still looking exciting after all this time! I personally am looking forward to OPA's (Gary Bowser) TIM 80 column enhancement and the MIDI interface (although, cartridge software is not what I had in mind!).

Anyway, here's the present offerings from the new newsletters available in the library.

BINDER NO. 2
* An article on Boolean logic for those programmers out there that are interested. (Lehigh - May 90)

BINDER NO. 10
* TI Base command files to change field names, display date (the manual states that it cannot be done) and deleting/restoring records. (PUG - Jun 90)
* A tutorial on how to disassemble the expansion box for repairs.
  (PUG - Jun 90)
* A modification to the MYARC RS232 card to protect it against spikes from a few of the printers on the market (ie. PANASONIC). (WestPenn - Jun 90)

BINDER NO. 17
* An Extended BASIC utility programme that allows command files for TI Base to be created with more than 50 lines (the current limit). (LA 99ers - Jun 90)
* An article that discusses how to free up additional memory in the TI Forth environment for use with arrays. (LA 99ers - May 90)
* An article on interfacing to the PIO port of the RS232 card. The circuit discussed was originally designed to connect a Tandy 4 colour printer/plotter to the trusty TI. This circuit is also backed up by an article in the Sep 90 OSHTI newsletter. (LA 99ers - May 90)
* A TI BASIC programme listing of a programme called The TI Learning Machine.
  The introduction states that the programme actually learns from the user. (Spirit - Jul 90)
* For those TIers that own a AVPC 80 column card, Elliot Melan has published the address for a library of 80 column software. This address is:
  Southern California Computer Group
  AVPC Librarian
  1540 Corsica Street
  San Diego, CA 92111
  (BC 99 News - Apr 90)

BINDER NO. 18
* An article on the 9640 address bus mapping for the FORTi music card. Taken from a message left on DELPHI by Jeff White. (BCS - May 90)

BINDER NO. 19
* An article by Ed Machonis called "A Few Tips On TIPS". The article is an in depth review of TIPS (TI Print Shop) and the 3,223 associated pictures.
  This programme is a public domain gift to the TI community by Ron Wolcott.
  There is even a programme included to printout all the picture names in each graphic file. Don't miss part 2 in the next issue.
  (QB Monitor - May/Jun-Jul - 90)

BINDER NO. 22
* A tip from Charles Good for owners of the newer gray/beige consoles. If the Extended BASIC command CALL SAY is used in a programme with no speech synthesizer attached, the consoles will lockup. This will not happen on a regular black/silver as Extended BASIC will just ignore the command.
  (Bits, Bytes and Pixels - Aug/Sep 90)

BINDER NO. 23
* A review of Barry Boone's GIF converter that includes a conversion chart by Stephen Andrews, that shows the

best option settings for converting pictures. (North Bay - Jun 90)
* A copy of the letter sent to all the people who ordered PRESS from Asgard.
  The letter declares PRESS as officially DEAD! (OSHTI - Jun 90)

BINDER NO. 24
* An article on manipulating the line number table in BASIC. The two programmes included can make a programme unlistable by tricking the computer into thinking there are no lines in memory and recalling the line number table as well. (Wordplay - Jun 90)

BINDER NO. 25
* An article that describes the TMS 9940 microprocessor in a general way and compares it to the TMS 9900. (EARs - Jul/Aug 90)
* A tipsheet and maps for the Infocom game Sea Stalker. (EARs - Jun 90)

BINDER NO. 28
* The instructions for the chess programme SARGON. (Upper Pinellas - Jun 90)

BINDER NO. 29
* A cross reference list of all the 32K by 8 SRAM (Static RAM) memory chips for use in a Horizon Ramdisk. Would be useful for someone out shopping for the least expensive chips for extending your ramdisk. (Slaves - Aug 90)

BINDER NO. 30
* A TELCO tip for those having problems logging to their printers.
  1. Go to terminal mode
  2. Press function 8
  3. Change XMIT on/off option to SINGLE from LOGIC
  (Hoosier - May 90)
* A short program that demonstrates how to create bass notes for your BASIC music programmes. (Hoosier - May 90)
* A tutorial on the programme Super Bugger II. The author states that the programme can be used to explore your system as well as debugging assembly programmes. (Hoosier - Sep 90)
* An Extended BASIC programme listing of a screen dump utility.
  (HOCUS - May 90)
* An assembly language programme listing for a programme that allows you to teach yourself Morse code. (HOCUS - Jun 90)
* An article on how to setup a checkbook ledger using MultiPlan.
  (Great Lakes - Jun 90)

And here's another BBS message from the past...

Message 1944 08/07/87

Re (R)SUPER SPACE II MODULE
To JOHN GUION(RETRIEVED)
By LEON BIENN-SEATTLE, WA.

The SSII module uses CRU address >0800 to accomplish bank switching John. A Code is written into User Workspace Reg 1 as follows: Bank 0 - >0002, Bank 1 - >0008, Bank 2 - >0020, Bank 3 - >0080. Register 12 is loaded with >0800, Reg 1 with one of the codes noted above, and then a LDCR R1,0 is executed. The logic in the module itself which does the bank switching is proprietary as noted in the manual that comes with the SSII module. I have no idea how it works anyway. Well I hope thats been of help. Good Luck....

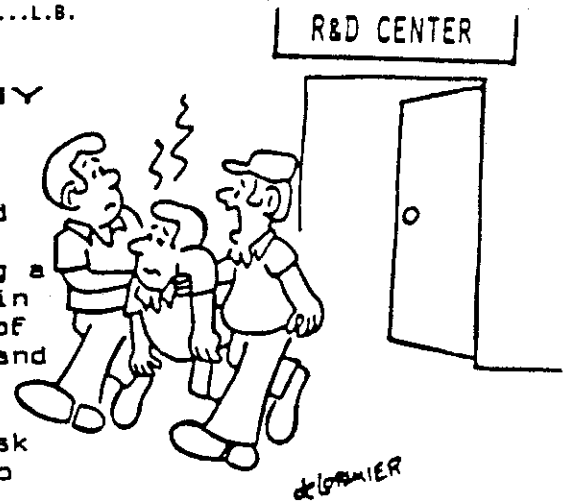
I've sure had fun playing with my module so far, even though I haven't finished the task I spoke of in the earlier message which you read.....still working on it, I remain,.....L.B.

'TIL NEXT TIME ... CALL LOAD(-31962,32)

NEW SOFTWARE COMPANY

VAST NEWS

KB COMPUTER CONCEPTS is a new TI-99/4A software supplier, headed by Keith Bergman. The company is located at 653 1/2 Fair Ave NW, New Philadelphia, OH 44663 and is offering a free catalog of its products. Items in the catalog include SPINNER, a wheel of Fortune type game for 1 to 3 players and "phrase disks" for SPINNER offering different phrases for the game. The game sells for $12 and each phrase disk is $5. Contact the supplier direst to get the catalog or to order.



"WE HAD A POWER FAILURE. THE COMPUTERS WENT OUT, AND SCOTT HAD TO THINK FOR HIMSELF."

Tony Lewis Conference Transcript

Hosted by Al Beard, Downloaded from Delphi

ASCII - Transcript of the Tony Lewis Conference held on DELPHI on November 9, 1988. Interesting topics include an EEPROM programmer, floating point co-processors, expanding the PEB power supply, and the "unknown" TI processor chips. All TI! Edited for easy reading.

Keywords: DELPHI, 99/4A, TONY, LEWIS, CONFERENCE

ACTION> (Next, Down, Xm, List) l

The following is a transcript of the Tony Lewis conference held on Delphi on November 9, 1988:

*** START OF DELPHI CONFERENCE ***

ABEARD>
I have a short introduction....
First off, we would like to welcome Tony Lewis to the DELPHI network. Besides being a proud new father, Tony is also an excellent author of topics for the TI-99 and MYARC Geneve, including such topics such as EEPROMs and the TI, how to make a RGB monitor cable for your Geneve, the 9918 and 9938 video chips, and a review of the Bunyard Hardware Manual.

Tony is an Engineer with a BS in Nuclear Engineering, a Masters in Mechanical Engineering, and has had electronics as a life-long hobby.

Several hardware projects Tony is working on include an EEPROM programmer for the PEbox, and IBM keyboard interface that sits in the PEBox and uses a 9995 microprocessor. Future projects include designs with the 99110A micro (yes, TI has even faster and better microprocessor chips than are used on the GENEVE), and video based projects using the 340 video chip series.

And yes, expect to see Tony's name in upcoming TI publications, but I'll let him continue with the introduction ....
Ok, Tony, any words of wisdom?

TONYLEWIS>
Well, that covers quite well (looks impressive on the screen Too!)
I hope that we can stir up some interest from the other members tonite in pure hare hardware type projects for the /4A and Geneve

ABEARD>
I know that the other DELPHI reps would be here, sorry I forgot about the Chicago show coming up.

TONYLEWIS>
No problem!

ABEARD>
Maybe you could tell us how you got started writing for Micropendium?

TONYLEWIS>
Well, I have written several automobile areticles on Chrysler products over the years and had an interest in the TI since 1983, and well, just sat down and wrote some articles this spring and sent them in.

ABEARD>
I've seen you've written articles about EEPROM's for the TI, I missed that article, maybe you could discuss it a little?

TONYLEWIS>
Yes, I did an article on EEPRPOMs for the now defunct Ryte Data newsleter back last year, probably will do an updated version in 1989
Basically, EEPROMs are nice little versions of Eproms that can be written to inplace, like static rams but retain their memory without using batteries, like several battery backed designs we see now, for instance, the Horizon ramdisk.

.Ron W.>
very slow to erase tho..true?

ABEARD>
What would the EEPROM's be used for? Boot ROM'S like on the GENEVE? Or something more?

TONYLEWIS>
No, not slow to erase. Slow to write to. I have a few circuit designs that take that into account by hardware. You can also slow things down by software too. Yes, I think EEPROMs should be used for boot ROMs for the geneve, can be updated by the user in place, instead of sending out new Eproms each time. Tandy computers do this.

ABEARD>
Which Tandy computers, the PC (semi) compatibles?

TONYLEWIS>
Yes, one of the "1000" series that came out this spring.

ABEARD>
Are they plug compatible with EPROMs? Or need special circuits?

TONYLEWIS>
They are plug compatible with static Rams; eproms need to be pulled from the circuit and completely erased, completely reprogrammed, even if you want to change only one bit on the whole chip. You dont need to do this with an eeprom.

ABEARD>
Are the densities comparable to static ram?

TONYLEWIS>
One more quick item: most eprom circuits don't have a WRITE signal, so eeproms arenot plug compatible. Densities are comparible to static ram. Interestinly enough, they are now cheaper than 8K static rams!

ABEARD>
I seem to remember when they came out, they were very expensive, over $100.00. True?

** CYNTHIA just joined "tonylewis" (5 members now) **

TONYLEWIS>
Yes! but like several things electronic in this world, they got cheaper. Plus static ram prices went thru the roof in 1987 and 1988. 8K chips in static ram and eeprom run about $13 now.

ABEARD>
$13=8k chip?

TONYLEWIS>
Yes! Only a year ago our friend the 6264 was a mere $3 a chip, now $13. eeprom prices have held steady, or dropped.

.Ron W.>
okTony, have you thought anymore about coprocessors...or waiting

on Myarc with the 32081 ?

ABEARD>
EEPROM programming sounds like a great hardware project. I'd like to discuss the co=processor project you have had in mind... (good topic, Ron)

ABEARD>
I know you have had discussions in the past of building a "super-processor" card for the PEB, complete with some new TI chip and possibly a floating point co-processor. Could you tell us what you had in mind, (processor, co-processor)?

TONYLEWIS>
OK one last thing about the eeprom programmerr. I am currently developing a prototype eeprom programmer that will program a 2K up o at 128K eeprom chip ina >4000 DSR location. Will keep other members posted as work continues.

.Ron W.>
sounds neat Tony

TONYLEWIS>
Yes, al and I stirred up quite a controversy this summer on another network about use of a Motorola 68881 floating point coprocessor.

TONYLEWIS>
This is the only chip that I know of that is meant to be used as a peripheral coprocessor to nonMotorola micros.

It could bring super fast, 80 bit accuracy math to the TI or geneve. It is possible in theory

.Cynthia> ?
OK... A couple of weeks ago, I met a couple visiting here (on way to Chicago for show)...His name is Albert Visser and he is a dealer in the Netherlands He mentioned the fact that the only thing cooled by the fan in the PEB was a little chip which is more powerful (and cooler) if relocated to another area in the box. He also said that it (chip) could be replaced with a more powerful one do yu know anything about that?

TONYLEWIS>
to put a 68881 across the TI bu bus with no particular hardware problems. Software interface is the big hand up. With regards to the PEBox power supply I redid mine this summer to upgrade the power output. The fan just cools several power regulators. I put in more powerful ones with heat sinks great. What the other person is suggesting is moving the power regulators to the outside of the box and let natural convection cool them.

.Cynthia>
Do you have documentation on the project?

TONYLEWIS>
I have my notes on how I designed the new regulators and circuit. Can send to you later, if you leave an address. Basically created a new board and added it in the space where the fan and transformer is. It is a pain to get in there though! ga

** JERRYC just joined "tonylewis" (5 members now) **
.Cynthia>
THANX! NEXT

ABEARD>
I have had concerns that the power supply in the PEB is underrated. Right now I have a GENEVE, an RS232, a TI controller, and am about to add a HFDC. Can you comment on whether the power supply could handle all that? Unexpanded?

TONYLEWIS>
Very doubtful. the power supply can't handle more than the cards you mentioned and one regular disk drive. I upped the amparge on the regulators, and added separate feeds to power the console, which allows you to remove that *hot* power board under the right side of the console.

ABEARD>
First step might be to power the disk drives externally... I have also added new VR's and the transformer is supplying 2 1Meg HRD's,HFDCC,40 Meg Seagate,and 3.5" floppy plus Geneve,C cont. rs232 etc...no problems...and its on 16 hrs/day!

TONYLEWIS>
If you go with an external supply, make sure the grounds on everything are well connected!

ABEARD>
Sounds like your construction notes might be very timely, Tony! Would you consider writing something up?

TONYLEWIS>
If I can find them <grin>. Yes I can do a writeup, but we will need schemattics too. ga

JERRYC> - signed off -

ABEARD>
(notice how I volunteer other people to do the work)

TONYLEWIS>
Any more interest in the coprocessor topic?

.Ron W.>
yes

ABEARD>
I'd like to discuss it a little more. I have actually had a LOT of interest from people about faster f.p. processing, Could you estimate how much the project would cost, hardware wise?

.Cynthia> - signed off -

TONYLEWIS>
OK basically this motorola chip would allow one to do f.p. math, with 80 bit accuracy, instead of 16 bits like the ti. A coprocessor card could work with either the /4A or geneve, but would be better suited for the geneve. The 12Mhz 68881 costs about $100, which is cheap compared to other chips.

A full blown card with the glue logic would add only about $50 to that. The *software* would be the big hassle, since you have to simulate the Motorola 68020 micro. Not impossible, just time consuming. ga

.Ron W.> comment

ABEARD>
So, for about $150, a f.p. "plug-in" card could be manufactured which would have potential on TI-99 or GENEVE...

.Ron W.>
Lou says he is going to provide a 32081 on the protection card a a

"peripheral coprocessor" with support XOP's in MDOS!
this does not sound like a bad way to go ...ga

TONYLEWIS>
One funny note: the Motorola applications engineer wants me to do the interface more than I do! I looked at the 32081. It is a good chips, ad cheaper than a 68881, but *does not* have full IEEE standard f.p. math capabilities. For example, the 68881 has constants like "pi", "e", etc. built in. And it is specifically made to be used as a

.Ron W.>
thats true but ...not so bad!

TONYLEWIS>
peripheral chip by nonMotorola micros. That would hopefully keep development time and $$ down. But you are right, the 32081 could do the trick!! ga

ABEARD>
Tony, I think your project might have capabilities on the TI-99 also, correct?

TONYLEWIS>
Yes, In fact when I get the time <sigh>, the prototype would be done with the /4a. But I haveserious doubts about the need for 80 bit accuracy math for the /4a. The geneve seems to be the right partner. Plus the /4a has a primitive interrupt scheme which would slow a coprocessor down somewhat.

.Ron W.>
actually XBASIC is 64 Bit math

ABEARD>
Believe it or not, I correspond with people that use the TI-99 BECAUSE it has such an accurate math package (yes, Ron, it is 64 bits, 8 bytes).

Many of these letters yearn for the speed of a floating point co-processor, which is why your project held so much interest for me.

TONYLEWIS>
I stand corrected. In any case you'd have to make sure that the combination of the 12 mhz fp chip and the time to run the software interface was not slower than what the /4a takes to do the same math. Al, I think a good coprocessor would greatly enhance the ususefulness of your Fortran and any "C" packages out there, in addition to Basic. We can talk at a future date about mutual cooperation on doing a softwre interface.

ABEARD>
I'd be interested in developing the software if you could do the hardware...

.Ron W.>
This sounds GOOD!

ABEARD>
Version 4.0 FORTRAN (coming soon to a theater near you) supports this type of project easily. Yes, I'd like to discuss it at a later date.

TONYLEWIS>
By the way, the hardware interface is already done. I got the easy part!

.Ron W.>
I do a lot of FFT's and FHT's and could use this enhancement!

ABEARD>
Aha! See an interested party!

TONYLEWIS>
I am sure Motorala would help out too. ga

ABEARD>
Think they would write the software for us? (just kidding)

.Ron W.>
our market's too big for them<grin>

TONYLEWIS>
No but they would not tell you to jump in the lake. ga

ABEARD>
Might be worth a few hundred chips to them, however.

.Ron W.>
Motorola has been very cooperative with us in our frame grabber project!

TONYLEWIS>
It would be worth more than that. They could use it as a marketing angle to prove that their chip can be used with non Motorola micros. By the way, the IBM RT uses an Intel micro with the 68881!!!! So it can be done.

ABEARD>
What Motorola pieces are you using in your frame grabber, Ron?

.Ron W.>
MC10319 and MC10318
their 8 bit a/d and d/a converters at 14 MHz

ABEARD>
Wait, Tony, the IBM RT is 68000 based, right?

TONYLEWIS>
Not according to advertisements and the Motorola tech engineer. It has an Intel micro, unless my memory is bad. ga

ABEARD>
Well, one thing I DON'T follow is the IBM PC line. I'd like to discuss one other topic, Tony, if we are finished with f.p. co-processors.. Ron, did you have anything else on the co-processor?

** ARTBYERS just joined "tonylewis" (4 members now) **
** TELEDATA just joined "tonylewis" (5 members now) **

.Ron W.>
v:no...just keep the interest ...ga

ABEARD>
I am very interested, and I think Tony is too.

TONYLEWIS>
Promises made in the middle of the night! I'm going to hold you to your offer of software help, Al! ga

ABEARD>
Aaaaarrrrgghhhhh! I have other interests in the f.p. chip beside the .. TI-99, so I think my interest will hold. Next topic, Tony, you know more about the TI line of processor chips than anyone else I know. Could you talk about the chips used in the TI-99, the GENEVE, and other chips which TI has available and might possibly be used in the future for TI-99 type clones?

TONYLEWIS>
Boy, you don't know a lot of people, al, <grin>. OK, quickly: the 9900 is a 16 bit micro built in the late '70s to emulate a TI 990 computer on a chip. The 9995 is a 16 bit internal, 8bit data bus, 2nd generation version. Much faster, originally marketed as a microcontroller, not necessarily a microprocessor for computers....

This is what is in the 99/8 and geneve. The relatively unkown chips are the 99000 (99 thousand) chips, which were introduced in 1982.... They are 32 bit internal, 16 bit data bus chips that run at 24 Mhz <gasp!>. Thee are right up there, in my opinion, with the '286 from Intel, used in the ATs. I have a 99110A sitting here on my desk, plan to use it someday! ga

ABEARD>
What machines use the 99000 series chips? ga

TONYLEWIS>
I know of only two, although the TI engineer says there aare quite a few. The TI mini business computers called the "1000" series I believe, use them, and there are some VME and STD bus cards that use them for high speed digital signal processing. ga

ABEARD>
How compatible are the 99000 series with the 9995 and 9900 chips used in the TI-99 and GENEVE? ga

TONYLEWIS>
TI tried to get IBM to use them in their PCs designs in the early '80s, but lost out to Intel <sigh> The 9995 has 4 more instructions than the 9900. The 99105A has more than a dozen more instructions. The 99110A has even more, with some limited floating point instructions built in. A 9995 can run all 9900 software, and a 99000 can run both 9995 and 9900 software.

ABEARD>
So, the question I am leading up to, it is theoretically possible to build a "super fast GENEVE"? Using the 99110A chip?

TONYLEWIS>
Oh yes..... but they (the chips) cost about twice or three times the cost of a 9995, and to be quite frank, I'd hate to put a Porsche engine (99000) in a Chevy body (PEBox bus= 8bits).....

Ron W.>
do you happen to have any FP times for the 99110...ga

** ARTBYERS just joined "tonylewis" (5 members now) **

TONYLEWIS>
Floating point times are comparialbe to Intel '88 with a Intel coprocessor, sometimes faster, sometimes slower. *Ican mail copies of old articles I dug up on the 99000 chips to interested members. Just leave your address here or via MAIL.*

TELEDATA> - signed off -

ABEARD>
Porsche engine would work, however, with 32-bit memory on-board (not on bus) Given today's technology not a real problem to pack it all on a board. Comment?

TONYLEWIS>
The 99110A *is not* a full fp implemenantation like the 68881 by the way. Yes, it would work, but I'd rather someone (?) start with a clean sheet of paper to design a 99000 based PC. Yes you might get it all in a 6" x 9" TI board, if you keep main memory ona separate card and a separate video card.

ABEARD>
Well, I'm not going to volunteer on THAT one. <grin>.

.Ron W.>
The HW is easy...but look how long MDOS took!

TONYLEWIS>
The trick is to start out small and build up your capabilities at time goes by. ga

ABEARD>
You have to have some kind of software compatibility. (Backwards compatibilty to another operating system)

.Ron W.>
True! a FAST Geneve emulator!

.Art>
MDOS was written by one person who was a full time college student.. that's why it took so long, but no longer than it took a staff at IBM to write os/2

TONYLEWIS>
Yes, you in theory could make a 'super geneve' that could run MDOS as is, just use the same memory, I/O addresses.

.Ron W.>
was not a criticism

ABEARD>
Yes, actually Paul and associates did a super job, given what they were working with.

.Ron W.>
No question about that!

TONYLEWIS>
I'd like to see more infor on programming in the 99xx domain, to develop new programmers in assembly, such that the community is not dependent upon a fragile few . ga

ABEARD>
While we are on this topic, Jim Horn and others have been promoting the very idea of getting the "TI's out of the closet", to be used in schools for budding programmers. I support this idea, I know many people who have these things collecting dust, and could probably be talked into donating them to schools for thier use.

ABEARD>
Any comments?

.Art>
I hope you all will send $5.00 each to Eunice Spooner to help her to continue this exact program. She has more than 20 k-8 students currently each with a "loaner" 99/4A they operate with cassette. I just mailed her disks of programs for that age level

She has gotten national publicity..It would help if we all put a tiny bit of money where are best intentions are.

** WAYNESTITH just joined "tonylewis" (5 members now) **

WAYNESTITH> HI

ABEARD>
Art, do you have the address for the record?

.Art>

I just posted it on the Forum, but give me a few secs, I'll dig it up again..

WAYNESTITH> ?
ABEARD>
ga Wayne

WAYNESTITH>
Is this a formal co?

ABEARD> We are still logging, should be done in a few minutes...
.Art>
EUNICE SPOONER RFD #1 box 3770, Webb Road, Waterville, ME 04901.
SAy your $5 is for the Oakland TI Club.ga

ABEARD>
Ok anything else for the formal conference?
Tony, Ron, Wayne, Art?

WAYNESTITH> no

TONYLEWIS>
I'd like to have any interested people contact me via MAIL if they are wanting more info. Any talk about the video chips?

.Ron W.>
Thanks for a good CO Tony!

.Art>
Since I got home so late and missed most of it, no sense my starting it over at square #1.

ABEARD>
Yes, we skipped the video chips. Maybe we could try another time on that topic?

TONYLEWIS>
OK. Hope we can do this again in the future! ga

ABEARD>
Tony, I enjoyed myself tonight. We had some interesting topics, and I'd like to thank you for spending the time with us. I hope we can stir up some interest in your hardware projects...

.Art>
Thanks Al..for taking on the host job. Nite all
.Art> - signed off -

ABEARD>
Any closing statement, Tony?

TONYLEWIS>
Thanks AL. If any one needs more detailed info, write me at 409 Drolmond Dr, Raleigh, NC 27615. Let's get together on some of these projects! Tony.

*** END OF DELPHI CONFERENCE ***

ACTION> (Next, Down, Xm, List)

TI & GENEVE PROGRAMING CONTEST!

YES! IT'S HERE! IT'S THE 1991 TI-99/4A AND GENEVE/9640 PROGRAMING CONTEST. IT STARTED ON JUNE 3, 1990 AND ALL ENTRIES SHOULD BE HANDED IN BY APRIL 1,1991. SEND 'EM BY SEA, BY SKY, BUT GET THEM HERE ON TIME!

--->P R I Z E S<---

YOUR FAVORITE PART!!! AH, THIS AGAIN. I NEVER WIN! OK, IF THEY WANT ME TO ENTER THEY BETTER MAKE IT SPECIAL THIS TIME. ANYHOW, I CAN'T WRITE A PROGRAM. HEY LOOK AT THIS. IF I ENTER I'M ALREADY A WINNER! YEA! WOW! LOOK AT THIS:
STRAIGHT FROM ME! EVERYONE'S A WINNER! HERES HOW IT GOES... ALL THE PEOPLE WHO SEND IN A DISK FULL OF PROGRAMS WILL RECEIVE A DISK FULL OF PROGRAMS, AND, IF YOU SEND IN TWO DISK FULL OF PROGRAMS YOU WILL RECEIVE TWO DISK OF PROGRAMS (YOUR CHOICE). NOW FOR THE FIFTEEN TOP WINNERS. THEY WILL NOT RECEIVE A DISK FULL OF PROGRAMS (CHOICE)! BUT INSTEAD THEY WILL RECEIVE A FULL COPY OF ALL ENTRIES! NOW TO THE TOP FOUR WINNERS! THEY WILL NOT ONLY RECEIVE A FULL COPY OF ALL ENTRIES BUT ALSO WILL RECEIVE MONEY IN THIS ORDER:

FIRST PLACE=$100.00 AND A COMPLETE COPY OF ALL ENTRIES!
SECOND PLACE=$75.00 AND A COMPLETE COPY OF ALL ENTRIES!
THIRD PLACE=$50.00 AND A COMPLETE COPY OF ALL ENTRIES!
FOURTH PLACE=$25.00 AND A COMPLETE COPY OF ALL ENTRIES!

ENTRIES SHOULD BE IN ANY LANGUAGE FOR THE TI-99/4A OR THE GENEVE/9640. "WELL I FINISHED MAKING A LANGUAGE A MONTH AGO. BUT CAN I ENTER THE LANGUAGE?" YES! WHAT I AM TRYING TO GET ACROSS IS IT,'S NOT WHAT KIND I WANT, IT'S WHAT KIND YOU WANT!

----------> WAIT! <----------
---> WHERE DO I SEND THEM, AND MORE ABOUT HOW TO SEND IT? <---

IF YOU'RE SENDING IT BY MODEM, YOU CAN EITHER CALL US (VOICE FIRST!) DIRECT 1-708-755-0051. TELL US TO TURN THE MODEM ON. (AT baud RATE 1200 OR 300). OR, YOU CAN SEND IT TO THE USERS GROUP BBS (708-862-0182). YOU CAN ALSO TAKE IT TO ONE OF THE MEETINGS. OR, MAIL IT TO ME:

DANIEL ZLOTORZYNSKI #046-B
3607 WALLACE
STEGER IL. 60475

ATT. 1991 PROGRAMING CONTEST.

OR, SEND IT TO THE CHICAGO TI USER'S GROUP AT:
CHICAGO TI USER'S GROUP
P.O. BOX 578341
CHICAGO, IL. 60657
ATT. 1991 PROGRAMING CONTEST.

WELL, BYE FOR NOW!"

DANIEL ZLOTORZYNSKI,
PROGRAMING CHAIRMAN

P.S. ALL ENTRIES MUST BE IN MY HANDS BY APRIL 1,1991

```
50 ! EASY LOAD BY J.PALMER, 9T9 USERS GROUP, TORONTO,CANADA, DOWNLOADED FROM THE
 GLANKONIAN BBS, TORONTO,CANADA
100 V$="V=3.31"
110 DD$="2"
120 DND$="N"
130 ID$="Y"
140 N=1
150 DN$=""
160 PRD$="SCREEN"
170 A=0
180 CALL SCREEN(8):: CALL CHARSET :: CALL CHAR(127,"",128,"1818181818181800000
0FFFF"):: DISPLAY AT(1,10)ERASE ALL:"EASY LOAD":TAB(9);"ÜÜÜÜÜÜÜÜÜÜÜÜ":TAB(10);"BY
 PALMER"
190 D$=DD$&"." :: DIM T$(4),R$(127):: HX$="0123456789ABCDEF" :: GOTO 220 :: H,R,
F,B,C,D,V,I=0 :: ST$,A$,B$,C$,K$="" :: CALL KEY :: CALL HCHAR :: CALL LOAD :: CA
LL PEEK :: CALL LINK :: CALL INIT :: CALL ERR :: !@P-
200 IMAGE "## ########## ###  PROGRAM"
210 IMAGE "## ########## ###  ### ###"
220 H=1 :: ST$="C)ATALOG, D)ELETE, R)UN, E)XIT, L)OAD, S)TART, I)NIT, P)RINT, T)
YPE, B)YTEDUMP, M)UNG, N)UMBER, Q)UIT, H)ELP, V)ERSION, U)TLITY, "
230 ON ERROR 780 :: ON WARNING NEXT :: ST$=ST$&SEG$(ST$,1,28):: T$(1)="D/F" :: T
$(2)="D/V" :: T$(3)="I/F" :: T$(4)="I/V" :: IF A>0 THEN 270
240 DISPLAY BEEP:;
250 DISPLAY AT(24,1):SEG$(ST$,H,28):: H=H+1 :: IF H>129 THEN H=1
260 CALL KEY(0,A,B):: IF B<1 THEN 250
270 ON POS("CDRELSIPTBMNQHVXU",CHR$(A),1)+1 GOTO 280,290,360,370,390,400,430,440
,450,520,540,620,670,680,700,740,750,1090
280 ON POS("cdrelsiptbmnqhvxu",CHR$(A),1)+1 GOTO 240,290,360,370,390,400,430,440
,450,520,540,620,670,680,700,740,750
290 GOSUB 1040 :: OPEN #1:"DSK"&D$,INPUT ,RELATIVE,INTERNAL :: INPUT #1,REC(0):A
$,A,B,C :: IF LEN(D$)>2 THEN DISPLAY AT(1,1):"       DSK"&D$ ELSE DISPLAY AT(1,1
):"DSK"&D$&" - DISKNAME= "&A$
300 DISPLAY AT(2,1):"  AVAILABLE=";C;"USED=";B-C:"##  FILENAME  SIZE  TYPE   PÜÜ
 ÜÜÜÜÜÜÜÜÜÜ ÜÜÜÜ ÜÜÜÜÜÜÜ Ü" :: CALL HCHAR(5,1,32,608):: V=5 :: FOR I=N TO 127
310 INPUT #1,REC(I):A$,A,B,C :: IF A$="" THEN CLOSE #1 :: GOTO 240 ELSE R$(I)=A$
 :: IF V>23 THEN 350
320 IF ABS(A)=5 THEN DISPLAY AT(V,1):USING 200:I,A$,B ELSE DISPLAY AT(V,1):USING
 210:I,A$,B,T$(ABS(A)),C
330 IF A<0 THEN DISPLAY AT(V,28):"Y"
340 V=V+1 :: GOSUB 880 :: NEXT I :: CLOSE #1 :: GOTO 240
350 GOSUB 850 :: V=4 :: CALL HCHAR(5,1,32,608):: I=I-1 :: GOTO 340
360 C$="DELETE" :: GOSUB 950 :: GOSUB 990 :: DISPLAY AT(24,1):">DELETE ""DSK"&D$
&A$&""""" :: DELETE "DSK"&D$&A$ :: GOTO 240
370 C$="RUN" :: GOSUB 950 :: GOSUB 820 :: GOSUB 990 :: DISPLAY AT(24,1)BEEP:">RU
N ""DSK"&D$&A$&""""" :: CALL PEEK(-31952,A,B):: CALL PEEK(A*256+B-65534,A,B):: C=
A*256+B-65534
380 A$="DSK"&D$&A$ :: CALL LOAD(C,LEN(A$)):: FOR I=1 TO LEN(A$):: CALL LOAD(C+I,
ASC(SEG$(A$,I,1))):: NEXT I :: CALL LOAD(C+I,0):: GOTO 2000
390 DISPLAY AT(24,1)BEEP:"          THANK YOU" :: STOP
400 C$="LOAD" :: GOSUB 950 :: IF A$="." THEN 410 ELSE GOSUB 990 :: GOSUB 820 ::
DISPLAY AT(24,1):">CALL LOAD(""DSK"&D$&A$&""")" :: CALL LOAD("DSK"&D$&A$)
410 DISPLAY AT(24,1):"LINK NAME:" :: ACCEPT AT(24,12)SIZE(-6)BEEP:A$ :: IF A$=""
 THEN 240
420 DISPLAY AT(23,1):"VARIABLE$:":":" :: ACCEPT AT(24,2)BEEP:K$ :: DISPLAY AT(23
,1): :: CALL LINK(A$,K$):: GOTO 240
430 DISPLAY AT(24,1):"START CATALOGS FROM:";N :: ACCEPT AT(24,22)SIZE(-3)VALIDAT
E(DIGIT," ")BEEP:N :: IF N=0 OR N>127 THEN 430 ELSE 240
440 GOSUB 830 :: GOTO 240
450 GOSUB 1040 :: OPEN #1:"DSK"&D$,INPUT ,RELATIVE,INTERNAL :: INPUT #1,REC(0):A
$,A,B,C :: GOSUB 1020
460 IF LEN(D$)>2 THEN PRINT #F: :"       DSK";D$ ELSE PRINT #F: :"DSK";D$;" - DI
SKNAME= ";A$
470 PRINT #F:"  AVAILABLE=";C;"USED=";B-C:"##  FILENAME  SIZE  TYPE   P":"-- ---
------- ---- ------- -"
480 FOR I=1 TO 127 :: INPUT #1,REC(I):A$,A,B,C :: IF A$="" THEN 890 ELSE R$(I)=A
$
490 IF ABS(A)=5 THEN PRINT #F,USING 200:I,A$,B;ELSE PRINT #F,USING 210:I,A$,B,T$
(ABS(A)),C;
500 IF A<0 THEN PRINT #F:TAB(28);"Y" ELSE PRINT #F:
510 NEXT I :: GOTO 890
520 C$="TYPE" :: B$="TYP" :: D=1 :: GOTO 570
530 PRINT #F:A$ :: RETURN
540 C$="BYTEDUMP" :: B$="DUMP" :: D=2 :: GOTO 570
550 PRINT "RECORD:";R :: FOR C=1 TO LEN(A$)STEP 6 :: V=INT(C/16):: K$=SEG$(HX$,V
+1,1)&SEG$(HX$,C-V*16,1)&"=" :: B$=SEG$(A$,C,6):: FOR B=1 TO LEN(B$):: A=ASC(SEG
$(B$,B,1))
560 V=INT(A/16):: K$=K$&SEG$(HX$,V+1,1)&SEG$(HX$,A-V*16+1,1)&" " :: NEXT B :: PR
INT SEG$(K$&"                    ",1,20)&"Ç"&SEG$(B$&"     ",1,6)&"Ç" :: NEXT C ::
R=R+1 :: RETURN
570 GOSUB 1040 :: GOSUB 1010 :: INPUT #1,REC(V):A$,A,B,C :: CLOSE #1
580 A$="DSK"&D$&A$ :: A=ABS(A):: ON A+1 GOSUB 810,910,920,930,940,810 :: IF D=1
THEN GOSUB 1020 ELSE C$="SCREEN"
590 PRINT : :B$;"ING FILES>":"FROM:   """;A$;"""":"TO:     ";C$:"STARTING RECORD
:";R: : :: ON A GOTO 600,600,610,610
600 LINPUT #1:A$ :: ON D GOSUB 530,550 :: IF EOF(1)THEN 890 ELSE GOSUB 880 :: GO
TO 600
610 INPUT #1:A$,B$,C$,K$ :: A$=A$&B$&C$&K$ :: ON D GOSUB 530,550 :: IF EOF(1)THE
N 890 ELSE GOSUB 880 :: GOTO 610
620 GOSUB 1040 :: OPEN #1:"DSK"&D$,INPUT ,RELATIVE,INTERNAL :: FOR D=N TO 127 ::
 INPUT #1,REC D:A$ :: IF A$="" THEN CLOSE #1 :: GOTO 240 ELSE IF A=1 THEN 640 EL
SE DISPLAY AT(24,1)BEEP:"DELETE """&A$&""" (Y/N/Q/A)?"
630 CALL KEY(0,A,B):: IF B<1 THEN 630 ELSE IF A=81 OR A=113 THEN CLOSE #1 :: GOT
O 240 ELSE IF A=65 OR A=97 THEN 660 ELSE IF A<>89 AND A<>121 THEN 650
640 DISPLAY AT(24,1):">DELETE ""DSK"&D$&A$&""""" :: DELETE "DSK"&D$&A$ :: D=D-1
650 NEXT D :: CLOSE #1 :: GOTO 240
660 DISPLAY AT(24,1):"INITIALIZE DISK??? N" :: ACCEPT AT(24,20)SIZE(-1)VALIDATE(
"YNyn")BEEP:K$ :: IF K$="Y" OR K$="y" THEN A=1 :: GOTO 640
670 DISPLAY AT(24,1):"SINGLE DRIVE PROCESSING? ";DND$ :: ACCEPT AT(24,26)SIZE(-1
)VALIDATE("YNyn")BEEP:DND$ :: GOTO 240
680 DISPLAY AT(24,1)BEEP:"QUIT  (Y/N)?"
690 CALL KEY(0,A,B):: IF B<1 THEN 690 ELSE IF A<>89 AND A<>121 THEN 240 :: GOSUB
 820 :: CALL LOAD(-31803,35)
700 DISPLAY AT(4,1):RPT$("ü",28):"C) CATALOG DISK":"D) DELETE DISK FILES":"R)*RU
N BASIC PROGRAM":"E) EXIT TO BASIC":"L)*LOAD MACHINE LANGUAGE PRG"
710 DISPLAY AT(10,1):"S) NUMBER TO START CAT FROM 1)*CALL INIT":"P) PRINT CATALO
G TO DEVICE  T) TYPE DISK FILES"
720 DISPLAY AT(14,1):"B) DUMP DISK FILES BY BYTE  M) MUNG, MASS DELETE":"N) ENTE
R NUMBER OF DRIVES  Q)*QUIT, LEAVE TI XBASIC":"H) PRINT THIS HELP LIST"
730 DISPLAY AT(19,1):"V) SHOW CURRENT VERSION NO. U) EXECUTE USER WRITTEN UTILX)
 BREAK PROGRAM (DEBUGGING) *=REQUIRES MEMORY EXPANSION"
740 DISPLAY AT(23,1):"üü";V$;RPT$("ü",20):: GOTO 240
750 BREAK
760 GOTO 240
770 DISPLAY AT(24,1)BEEP:"* RUN ERROR- PROGRAM RESET" :: RUN
780 CALL ERR(I,A):: IF I=130 THEN K$="* I/O ERROR- CHECK DISK" ELSE K$="* ERROR-
 CHECK DISK & INPUT"
790 DISPLAY AT(24,1)BEEP:K$ :: ON ERROR 800 :: CLOSE #1 :: CLOSE #2
800 ON ERROR 780 :: FOR I=1 TO 100 :: NEXT I :: GOTO 240
810 DISPLAY AT(24,1)BEEP:"* ERROR- INVALID FILE TYPE" :: FOR I=1 TO 300 :: NEXT
I :: GOTO 240
820 IF ID$="Y" OR ID$="y" THEN CALL INIT :: RETURN
830 DISPLAY AT(24,1):">CALL INIT  (Y/N)? ";ID$ :: ACCEPT AT(24,20)SIZE(-1)VALIDA
TE("YNyn")BEEP:ID$ :: IF ID$="Y" OR ID$="y" THEN CALL INIT
840 RETURN
850 DISPLAY AT(24,1)BEEP:" PRESS SPACE BAR TO GO ON"
860 CALL KEY(0,A,B):: IF B<1 THEN 860 ELSE IF A=32 THEN DISPLAY AT(24,1): :: RET
URN
870 DISPLAY AT(24,1): :: CLOSE #1 :: IF F=2 THEN CLOSE #2 :: F=1 :: GOTO 270 ELS
E 270
880 CALL KEY(0,A,B):: IF B<1 THEN RETURN ELSE IF A=32 THEN 850 ELSE 870
890 CLOSE #1 :: IF F=2 THEN CLOSE #2 :: F=1 :: GOTO 240 ELSE 240
```

Spotlight

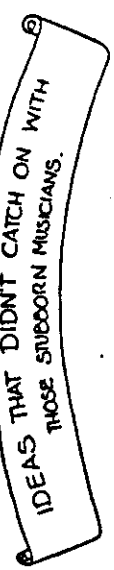
for Sale

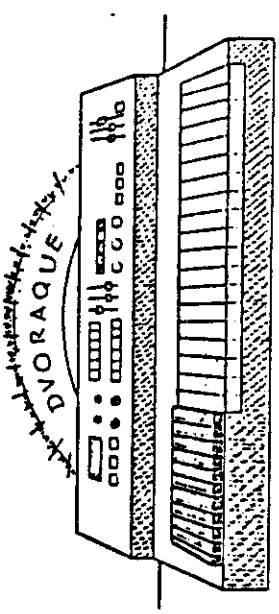
A memorial disk of Bill Knecht's music is being made available to Texas Instrument 99/4A Users. It contains 63 Songs of Religious, Christmas, and Popular Songs with Graphics, Some Sing-a-longs. It will be formatted to suit your system in DS/DD, DS/SD, or SS/SD. size 1338 sectors. Auto load with a menu for each type song.

Price is $10.00 per complete program, including shipping and handling. All proceeds from sale of program will be used exclusively to purchase hymnals for the church of which Bill was a member.

Mail donations ($10.00) to his father,
Henry Knecht
3309 Flamborough
Pasadena, Texas 77503
(713) 473-8670

```
900 DISPLAY AT(24,1):"STARTING RECORD NUMBER: 0" :: ACCEPT AT(24,25)SIZE(-3)VALI
DATE(DIGIT)BEEP:R :: RESTORE #1,REC(R):: RETURN
910 OPEN #1:A$,RELATIVE,INPUT :: GOSUB 900 :: RETURN
920 OPEN #1:A$,INPUT :: R=0 :: RETURN
930 OPEN #1:A$,RELATIVE,INTERNAL,INPUT :: GOSUB 900 :: RETURN
940 OPEN #1:A$,INTERNAL,INPUT :: R=0 :: RETURN
950 DISPLAY AT(24,1):C$;" NUMBER OR N)AME: 0" :: ACCEPT AT(24,19+LEN(C$))SIZE(-3
)VALIDATE(DIGIT,"Nn")BEEP:A$
960 IF POS(A$,"N",1)=0 AND POS(A$,"n",1)=0 THEN 980 ELSE GOSUB 1040 :: DISPLAY A
T(24,1):C$&" FILE NAME?" :: ACCEPT AT(24,13+LEN(C$))SIZE(-10)BEEP:A$
970 IF A$="" THEN 950 ELSE RETURN
980 V=VAL(A$):: IF V=0 THEN 240 ELSE IF V>1 OR V<N THEN 950 ELSE A$=R$(V):: RETU
RN
990 DISPLAY AT(24,1)BEEP:C$&" """&A$&""""  (Y/N)?"
1000 CALL KEY(0,A,B):: IF B<1 THEN 1000 ELSE IF A=89 OR A=121 THEN RETURN ELSE 2
40
1010 OPEN #1:"DSK"&D$,INTERNAL,INPUT ,RELATIVE :: DISPLAY AT(24,1):C$;" NUMBER:
0" :: ACCEPT AT(24,10+LEN(C$))SIZE(-3)VALIDATE(DIGIT," ")BEEP:V :: IF V=0 OR V>1
27 THEN CLOSE #1 :: GOTO 240 ELSE RETURN
1020 DISPLAY AT(23,1):"OUTPUT DEVICE?(""SCR""=SCREEN)?";PRD$ :: ACCEPT AT(24,2)S
IZE(-27)BEEP:C$
1030 DISPLAY AT(23,1): : : :: IF C$="" THEN CLOSE #1 :: GOTO 240 ELSE IF SEG$(C$
,1,3)="SCR" OR SEG$(C$,1,3)="scr" THEN F=0 :: PRD$,C$="SCREEN" :: RETURN ELSE F=
2 :: OPEN #2:C$,OUTPUT :: PRD$=C$ :: C$="""&C$&""" :: RETURN
1040 IF POS("Yy",DMD$,1)>0 THEN D$=DD$ :: GOTO 1080 ELSE DISPLAY AT(24,1):"DRIVE
?(1-3) OR N)AME: ";DD$ :: ACCEPT AT(24,23)SIZE(-1)VALIDATE("0123Nn")BEEP:D$
1050 IF D$="0" OR D$="" THEN D$=DD$&"." :: GOTO 240 ELSE DD$=D$ :: IF POS("Nn",D
$,1)=0 THEN 1080
1060 DISPLAY AT(24,1):"DISK NAME? ";DN$ :: ACCEPT AT(24,12)SIZE(-10)BEEP:D$
1070 IF D$="" THEN 1040 ELSE DN$=D$ :: D$="."&D$
1080 D$=D$&"." :: RETURN
1090 GOTO 240
2000 ON ERROR 770
2010 RUN "DSK1.012345678"
```





COMPUTER TECHNOLOGY BRINGS US TO THE DVORAQUE SYNTHESIZER KEYBOARD, KEEPING ALL OF THOSE NUISANCE BLACK KEYS OFF TO ONE SIDE WHERE THEY STAY OUT OF TROUBLE.

Pecan Conference

Eli Willner Guest, hosted by Jim Horn, Downloaded from Compuserve

An interesting conference held on TIFORUM on CompuServe concerning the Pecan Software for the 9640 Geneve.
Guest speaker was Eli Willner, owner of Pecan.
Read this conference for information on the P-System for the 9640.

Keywords: MYARC, PASCAL, PECAN SOFTWARE, ELI WILLNER, 9640 GENEVE

ACTION> (Next, Down, Xm, List) L

User	User ID	Nod	Area	Name
2w	76701,203	SEA	Rm 1	<CB>:)
3w	76703,603	HVN	Rm 1	Jim Horn
4w	75116,2373	CRI	Rm 1	Jim Reiss
5w	71410,1321	CVI	Rm 1	Ron Walters
6	73647,3000	RIC	Rm 1	Wayne Stith
7w	71470,3146	CNJ	Rm 1	Tom Auleta
8	76703,500	NYK	Rm 1	Eli <PECAN>
11	74716,3525	DCI	Rm 1	Jerry Coffey
12	75126,31	MEX	Rm 1	Michael Dorman
3w	76701,203	DET	Rm 1	Warren Agee
5	73377,125	PRI	Rm 1	Ed B
1	71341,235	MAD	Rm 1	DENNIS NEWMAN

(1-3,Jim Horn) Ok, folks going formal. Who has the first question? No statement.
(1-2,CB) ?
(1-3,Jim Horn) Go ahead, CB. Eli asked for no opening comments
(1-2,CB) ok...just wanted to know about software status/support for Geneve and Myarc at this time.
(1-8,Eli) ok...I will try to answer at some length to anticipate further questions....
(1-8,ELI) Some time ago (SOME time ago!) Myarc contacted Pecan regarding a port of the p-System to the Geneve. They opted to take out a license to distribute the P-System runtime, but to do the port themselves. Their object code license was duly paid for when executed. Per our agreement (NOT part of the license) we sent Myarc relevant 99/4 sources for the machine-specific parts of the system object code for the machine independent part of the system, and relevant documentation. Myarc was entitled to the same support any licensee was entitled to... a certain period at no charge, payment for the further support... "Support", incidentally, means answering general questi ons about the... Power System and its functions. Since Myarc opted to do the port themselves... support obviously does not include handing us a piece of their code... and saying "why doesn't this work".... we have, however, answered such questions on a number o f occasions on... a consulting basis (ie. we were paid for our time)... As to why the port has taken so long, especially given that Myarc... has the 99/4 sources, I can only say that you're asking the wrong person... Similar ports have been done for different machines and operating systems... in far less time -- and not only inhouse at Pecan, but also by others... working independently. ga

[75116,2373] (1-4,JimR) .
[74716,3525] (1-11,JerryC) ?
[76703,603] (1-3,Jim Horn) ga jimR
[76703,500] (1-8,Eli) I am saying that Pecan is not the cause of the delay, and I don't know the cause of the delay. ga
[76703,603] (1-3,Jim Horn) ga jimr
[75116,2373] (1-4,JimR) I just wanted to mention that the 99/4A p-system...
[75116,2373] (1-4,JimR) was not written in native 9900 code, but rather was...
[75116,2373] (1-4,JimR) written in a proprietary TI language not included in MDOS.
[75116,2373] (1-4,JimR) ga
[76703,500] (1-8,Eli) Jim, I haven't studied the sources....
[76703,500] (1-8,Eli) I personally am not a 99 person...
[76703,500] (1-8,Eli) But I can say that we gave them what we had, that at least part of what...
[76703,500] (1-8,Eli) we supplied _was_ in assembler, and that we have not had any indication...
[76703,500] (1-8,Eli) from Myarc that anything was missing. ga
[75116,2373] (1-4,JimR) Was not saying that something was missing...
[75116,2373] (1-4,JimR) just thought it was relevant that there is some translation delay involved...
[75116,2373] (1-4,JimR) for the information of attendees.
[76703,500] (1-8,Eli) For what its worth, I believe that the PME ....
[76703,500] (1-8,Eli) (the p-machine emulator, the heart of the machine-specific runtime)...
[76703,500] (1-8,Eli) _was_ written in assembler. However, as I say, I can't make a definitive...
[76703,500] (1-8,Eli) statement on that. ga
[75116,2373] (1-4,JimR) done.
[76703,603] (1-3,Jim Horn) ga jerry
[74716,3525] (1-11,JerryC) You say the source code was for the 99/4a ... TI also did a port for the 9995 ...
[74716,3525] (1-11,JerryC) (for the 99/8) -- Did you get rights to that one?
[76703,500] (1-8,Eli) Jerry, I do not believe that we obtained the rights to that...
[76703,500] (1-8,Eli) I do know that we did not obtain the software for that. ..
[76703,500] (1-8,Eli) This was, of course, known when Myarc and Pecan signed the license...
[76703,500] (1-8,Eli) At the time, the job seemed to involve two phases:...
[76703,500] (1-8,Eli) converting the code (or rewriting it, as they saw fit) for the 99/8...
[76703,500] (1-8,Eli) and upgrading the code from IV.13 p-System, to the then current version...
[76703,500] (1-8,Eli) of IV.21. The latter part of the job should have taken no more than 3 ...
[76703,500] (1-8,Eli) to 4 weeks. We were not sufficiently expert to estimate how long...
[76703,500] (1-8,Eli) the former part of the job would take, but Myarc seemed to believe that
[76703,500] (1-8,Eli) it would take them no more than a few months. ga
[74716,3525] (1-11,JerryC) There is an incompatibility between the 99/4a and P-system disk I/O that ...
[74716,3525] (1-11,JerryC) TI avoided by locking into their own controller. It had to be fixed for the ..
[74716,3525] (1-11,JerryC) Myarc controller -- I wonder..... ga
[76703,500] (1-8,Eli) Possible, but I don't know...
[75116,2373] (1-4,JimR) ?
[76703,500] (1-8,Eli) I do not believe that that is where they are hung up n

ow, however -- but that is just my impression.
[74716,3525] (1-11,JerryC) If that is it, the best fix would be a slight patch

in the initialization code. ga
[76703,500] (1-8,Eli) Jerry, we have so far limited our assitance...
[76703,500] (1-8,Eli) to the p-System side of things -- by request, since the

y are further along...
[76703,500] (1-8,Eli) on the TI learning curve than we are...
[76703,500] (1-8,Eli) Between you and me (and everyone else online, and anyon

e who reads the...
[76703,500] (1-8,Eli) transcript, and JimH's readers in CS)...
[76703,500] (1-8,Eli) they would have been better off letting us do the port
in the first place...
[76703,500] (1-8,Eli) because we are used to hopping from machine to machine.

..
[76703,500] (1-8,Eli) its no big deal for us to learn another processor and a

ssociated hardware...
[76703,500] (1-8,Eli) software...
[76703,500] (1-8,Eli) and we DO know the p-System QUITE well...
[76703,500] (1-8,Eli) however, it becomes progressively harder to cut your lo

sses, admit you made...
[76703,500] (1-8,Eli) a mistake and hand the work over to someone else as tim

e goes on...
[76703,500] (1-8,Eli) I certainly sympathize with their plight! ga
[74716,3525] (1-11,JerryC) This one is pretty bizarre - maybe I'll look at the

9995 code (I have that ...
[74716,3525] (1-11,JerryC) machine) where lots of it is in ROM. ga
[76703,500] (1-8,Eli) Why not talk to Lou and see if he'd like the help...
[76703,500] (1-8,Eli) one things for sure: we'd LOVE to see the p-System runn

ing on the Geneve...
[76703,500] (1-8,Eli) no matter who does it. ga
[74716,3525] (1-11,JerryC) ME TOO (and he IS interested.)
[76703,500] (1-8,Eli) Go for it! ga
[74716,3525] (1-11,JerryC) Oh for more time ... ga
[76703,603] (1-3,JimH) jimr
[75116,2373] (1-4,JimR) Assuming Myarc finishes their part, what can the syste

m do? ga
[76703,500] (1-8,Eli) (can it core a apple?)....
[76703,500] (1-8,Eli) The p-System is a machine independent program developme

nt....
[76703,500] (1-8,Eli) and execution environment. It supports UCSD Pascal, FOR

TRAN-77, BASIC...
[76703,500] (1-8,Eli) a new C compiler, assembler, a family of cross assemble

rs and a host of...
[76703,500] (1-8,Eli) associated integrated development tools (editor, debugg

er, etc.)....
[76703,500] (1-8,Eli) its strong point is portability -- the development envi

ronment is identical...
[76703,500] (1-8,Eli) across all supported platforms, and code -- even applic

ation object code --
[76703,500] (1-8,Eli) is portable across all supported platforms. These inclu

de MSDOS, Mac, Atari,
[76703,500] (1-8,Eli) Amiga, VAX/VMS, UNIX, Apple II -- just about all micro
and most mini...
[76703,500] (1-8,Eli) platforms...
[76703,500] (1-8,Eli) If you want to develop code that is highly dependent on

specific features...
[76703,500] (1-8,Eli) unique to a particular machine, then the p-System is pr

obably not your...
[76703,500] (1-8,Eli) best choice. If you want to develop code that'll run, o

r at least port...
[76703,500] (1-8,Eli) easily, you should consider the p-System (end of sales
pitch) ga
[74716,3525] (1-11,JerryC) ?
[75116,2373] (1-4,JimR) Thanks, I'm done.
[76703,603] (1-3,JimH) ga jerry
[74716,3525] (1-11,JerryC) What is the current price for the Pascal (and other

) development ...
[74716,3525] (1-11,JerryC) systems -- assuming the runtime gets going?
[76703,500] (1-8,Eli) The system is currently being sold by two separate comp

anies -- Pecan...
[76703,500] (1-8,Eli) who hold the rights, and Liaison Systems, who have lice

nsed the rights...
[76703,500] (1-8,Eli) for commercial developer (ie. Liaison sublicenses)...
[76703,500] (1-8,Eli) a development package from Pecan, including choice of l

anguage, costs...
[76703,500] (1-8,Eli) $249.95. If you sell your application, need a high leve

l of support, ...
[76703,500] (1-8,Eli) automatic upgrades -- or for whatever reason want t be

considered a
[76703,500] (1-8,Eli) "corporate" or "commercial" user, you'll need a license

from Liaison...
[76703,500] (1-8,Eli) These typically cost $3,000. ga
[74716,3525] (1-11,JerryC) You had an entry level system a couple of years ago

...
[74716,3525] (1-11,JerryC) Is that still available, or is the $250 package it?

[76703,500] (1-8,Eli) Yes, of course. We call it PDQ Pascal...
[76703,500] (1-8,Eli) it is now targeted primarily at schools, is a subset of

the full system...
[76703,500] (1-8,Eli) (though the language is still a full implementation of
Pascal)...
[76703,500] (1-8,Eli) and comes with a textbook-style manual. Costs $79.95 in

single quantities. ga
[74716,3525] (1-11,JerryC) That sounds like a good learning tool - can it be u

pgraded?
[76703,500] (1-8,Eli) yes -- you can upgrade to the $250 package for the diff

erence in price, plus
[76703,500] (1-8,Eli) (I think) $10 or so. ga
[74716,3525] (1-11,JerryC) OK thanks. ga
[76703,603] (1-3,JimH) I had a question while everyone gets their breath, Eli

...
[76703,603] (1-3,JimH) What will the Geneve owner have when they have the <su
ccessful> run time package?
[76703,603] (1-3,JimH) ga
[76703,500] (1-8,Eli) Jim, the runtime enables you to do what the name implie
s...
[76703,500] (1-8,Eli) which is, to run p-System applications (some very fine
commerical...
[76703,500] (1-8,Eli) applications are written using the p-System, though its
 up to the vendor...
[76703,500] (1-8,Eli) of the application to decide whether or not he/she want
s to address...
[76703,500] (1-8,Eli) the Geneve market). The runtime doesn't let you devllop
 unless you purchase...
[76703,500] (1-8,Eli) a compiler. The plan is for the Geneve customer who is
interested in...
[76703,500] (1-8,Eli) development to purchase the compiler(s) from us (or pos
sibly also from...
[76703,500] (1-8,Eli) Myarc; don't remember)...
[76703,500] (1-8,Eli) the price for the compiler will be something less than
the cost of a full...
[76703,500] (1-8,Eli) development system, since the Myarc customer already ha
s the runtime part...
[76703,500] (1-8,Eli) I don't know what the exact price will be -- the pricin
g structure has...
[76703,500] (1-8,Eli) changed in the 3 or so years since we started dealing w
ith Myarc...
[76703,500] (1-8,Eli) but I guess you can use the $250 as an upper limit for
a single user. ga
[76703,603] (1-3,JimH) I have a Geneve ad here that says...
[76703,603] (1-3,JimH) "UCSD Pascal" But "run time" does not imply...
[76703,603] (1-3,JimH) that the person can program in Pascal, does it? ga
[76703,500] (1-8,Eli) No it does not -- at least, not without buying a compil
er first! However...
[76703,500] (1-8,Eli) I don't remember the exact context of the ad. ga
[76703,603] (1-3,JimH) It is an ad that was in the latest Micropendium...
[76703,603] (1-3,JimH) and it(I do not have it in front of me) indicated that
...
[76703,603] (1-3,JimH) the Geneve would have UCSD Pascal, I think.
[76703,603] (1-3,JimH) Anyone have a Micropendium? at any rate...
[76703,603] (1-3,JimH) I am done for the nonce. who is next?
[76703,500] (1-8,Eli) Well so it will, if it has anything, but I don't know w
hat Myarc's...
[76703,500] (1-8,Eli) current plans are regarding the possible bundling of a
compiler. ga
[76703,603] (1-3,JimH) Well, then, at least, if someone wants to sell...
[76703,603] (1-3,JimH) programs, he will need to have the developement packag
e, right?
[76703,500] (1-8,Eli) if someone wants to _write_ and sell programs he will n
eed the development...
[76703,500] (1-8,Eli) package. He will also need a license from Liaison, thou
gh I hope the $3k...
[76703,500] (1-8,Eli) figure hasn't scared anyone off...
[76703,500] (1-8,Eli) applications that sell to more limited markets at lower
 costs than are...
[75116,2373] (1-4,JimR) .
[76703,500] (1-8,Eli) typical in today's micro world...
[76703,500] (1-8,Eli) carry lower license fees. ga
[76703,603] (1-3,JimH) Will programs written with the Version IV.0 with the p
-Card run on run time?
[76703,603] (1-3,JimH) after this answer, ga JimR.
[76703,500] (1-8,Eli) TI did some diddling with the Pascal parts of the syste
m as well as the...
[76703,500] (1-8,Eli) machine-specific parts....
[76703,500] (1-8,Eli) Therefore, the answer is, if the source code is availab
le and is recompiled...
[76703,500] (1-8,Eli) under the latest release it will _definitely_ run -- an
d the source code...
[76703,500] (1-8,Eli) will not need _any_ modifications...
[76703,500] (1-8,Eli) if only object code is available it will _probably_ run
, but there will...
[76703,500] (1-8,Eli) be circumstances where it won't. ga
[75116,2373] (1-4,JimR) I just looked at that ad, it's merely worded badly...
[75116,2373] (1-4,JimR) It says "if you have a standard UCSD Pascal program, y
ou will be...
[75116,2373] (1-4,JimR) able to run it with this program." It doesn't say you
 can compile it...
[75116,2373] (1-4,JimR) if it is not yet compiled...
[76703,500] (1-8,Eli) ah, copywriters!
[75116,2373] (1-4,JimR) by the way, I assume the sprite, speech and sound...
[75116,2373] (1-4,JimR) that TI added to the p-card create "circumstances"...
[75116,2373] (1-4,JimR) which would make object unrunnable?
[76703,500] (1-8,Eli) It is generally the implementors responsibility...
[76703,500] (1-8,Eli) to support machine-specific features with libraries (un
its; the p-System...
[76703,500] (1-8,Eli) makes that very easy) that, in effect, extend the langu
ages...
[76703,500] (1-8,Eli) TI did that for the sprite, speech and sound, etc. Thes
e did not involve...
[76703,500] (1-8,Eli) modifications to the heart of the system...
[76703,500] (1-8,Eli) If Myarc is smart, they will implement compatible libra
ries for the...
[76703,500] (1-8,Eli) Geneve. If they don't developers will have to convert a
ny source that...
[76703,500] (1-8,Eli) invokes the TI library calls to the Geneve specific lib
rary calls (ech!). ga
[71410,1321] (1-5,Ron Walters) [/ust
[75116,2373] (1-4,JimR) People tend to patch where Myarc fails them.
[76703,500] (1-8,Eli) Right, but if the idea is to get commercial developers.
..
[76703,500] (1-8,Eli) interested in the machine, making them patch their way

around oversights...
[76703,500] (1-8,Eli) is NOT the way to go. ga
[76703,603] (1-3,JimH) Eli, I would like to try to get a better handle on the

...
[76703,603] (1-3,JimH) "typical" p-System user which you...
[76703,603] (1-3,JimH) mentioned, or alluded to a while back.
[76703,603] (1-3,JimH) Could you diescribe your typical customer, and what th

ey do?
[76703,603] (1-3,JimH) ga
[76703,500] (1-8,Eli) Jim, there are three or four totally different "typical

" p-System users...
[76703,500] (1-8,Eli) The most common (these are "seat-of-the-pants" statisti

cs, but are based...
[76703,500] (1-8,Eli) on good experience) is a vertical market developer -- s

omeone with an...
[76703,500] (1-8,Eli) application to manage a retail store, for example...
[76703,500] (1-8,Eli) typically, these days, very much concerned about the mu

ltiuser market...
[76703,500] (1-8,Eli) but not wanting to ignore (and not able to afford to ig

nore) the lower end...
[76703,500] (1-8,Eli) single user market. He/she has probably entered into a
relationship...
[76703,500] (1-8,Eli) with a hardware manufacturer or distributor and makes a

few bucks on...
[76703,500] (1-8,Eli) the hardware, as well as the application...
[76703,500] (1-8,Eli) he/she is deathly afraid that the manufacturer will pul

l the rug out from...
[76703,500] (1-8,Eli) under him by making the hardware unaffordable or changi

ng the way it works...
[76703,500] (1-8,Eli) or just not selling it to him -- thereby putting him ou

t of business until...
[76703,500] (1-8,Eli) he rewrites the application. Enter the p-System!...
[76703,500] (1-8,Eli) where he can thumb his nose at the manufacturer -- and
make a better deal,
[76703,500] (1-8,Eli) because its his ball game...
[76703,500] (1-8,Eli) another typical user is a corporate type, with a large
(or maybe not so large!)...
[76703,500] (1-8,Eli) corporate application..
[76703,500] (1-8,Eli) many programmers work on it, and they don't all have th

e same machine...
[76703,500] (1-8,Eli) many users (usually inhouse, but not always) will use i

t, and they don't...
[76703,500] (1-8,Eli) all have the same machine. Enter the p-System...
[76703,500] (1-8,Eli) Yet another user is a school -- high-school, junior col

lege, university...
[76703,500] (1-8,Eli) even an elementary school. They have a menagerie of mac

hines donated by...
[76703,500] (1-8,Eli) this and that manufacturer, with not enough of any one
model to use in...
[76703,500] (1-8,Eli) a class. They want to teach Pascal (or C, or...) but th

ey don't want the...
[76703,500] (1-8,Eli) horror of different text editors, compilers, etc. for e

ach student...
[76703,500] (1-8,Eli) enter the p-System. You get the idea! ga
[76703,603] (1-3,JimH) Given your view of the p-System...
[76703,603] (1-3,JimH) where do you see the Geneve(and its owners!) fitting i

nto that?
[76703,500] (1-8,Eli) It depends on where, and to whom, Myarc targets the mac

hine...
[76703,500] (1-8,Eli) Our customer base has grown beyond the dedicated hacker

[76703,500] (1-8,Eli) but there are still plenty of them around. My impressio

n is that that is...
[76703,500] (1-8,Eli) the heart of the Myarc customer base. If so, the p-Syst

em is a delightful...
[76703,500] (1-8,Eli) hacking ground even today (I use the word in its positi

ve sense, of course)...
[76703,500] (1-8,Eli) I myself got my start that way. ga
[76703,603] (1-3,JimH) What would a hacking package mean? ga
[76703,500] (1-8,Eli) To me, it means a set of tools whose innards are stable

and consistent...
[76703,500] (1-8,Eli) enough for me to experiment with, and well-designed eno

ugh so that I can...
[76703,500] (1-8,Eli) learn something in the process. ga
[76703,603] (1-3,JimH) & what would that mean in terms of stuff? the $250 pa

ckage?
[76703,500] (1-8,Eli) There is enough to get started in the $79.95 package...

[76703,500] (1-8,Eli) When you want to get down into the bits and bytes...
[76703,500] (1-8,Eli) the $250 package has some tools that will help, but it'

s interesting to...
[75116,2373] (1-4,JimR) ?
[76703,500] (1-8,Eli) note that the very early versions of things like PATCH
and DECODE were written by...
[76703,500] (1-8,Eli) hackers with nothing more than a Pascal compiler! ga
[76703,603] (1-3,JimH) ga JimR
[75116,2373] (1-4,JimR) What do additional compilers cost once one has the dev

elopment system?
[76703,500] (1-8,Eli) Each additional compiler costs $99.95. ga
[75116,2373] (1-4,JimR) Including the C compiler?
[76703,500] (1-8,Eli) Yes -- once we get it out the door! ga
[76703,603] (1-3,JimH) Is anything happening with you in the Atari or the Ami

ga world, Eli?
[76703,500] (1-8,Eli) We are keeping our implementations current (ie. up to t

he latest p-System...
[76703,500] (1-8,Eli) release, and up with the latest versions of those mcchi

ne/os's)...
[76703,500] (1-8,Eli) for the Atari and Amiga. Many schools use those...
[76703,500] (1-8,Eli) quite frankly, most commercial developers shy away, how

ever. So those ...
[76703,500] (1-8,Eli) machines do not make up a major portion of our market.

Texaments releases GIF Mania program

Texaments has released GIF Mania, described as the first program able to display standard GIF graphics files on an ordinary TI99/4A.

Using an ordinary 4A console with a disk drive and 32K memory expansion, TI users can now view industry standard GIF graphics files with the aid of GIF Mania, according to Steve Lamberti, president of Texaments. Different controls within the program allow the user to alter the overall appearance of images as they appear on the screen, he says. Controles included are color select (intensity, deviation, greyscale and monochrome viewing), black line mode (to remove image borders), condense mode (to crop images larger than the normal TI99/4A viewing screen) and left and up shift modes (for zooming around high-resolution pictures).

In addition, the manufacture says, GIF Mania can also convert GIF images into standard TI Artist Plus! pictures. With TI Artist Plus! (sold separately), the user can alter or print the pictures or use them to create movie sequences.

GIF (Graphics Interchange Format) is a universal graphics format originally developed by CompuServe Information Services so that computer users could exchange graphics files regardless of what computer platform they were using (IBM, Apple, Commodore, Atari or TI). The GIF format has become a worldwide graphics image standard. More than 100,000 GIF images exist, many of which are available free through on-line information services such as CompuServe, GEnie, Delphi and local bulletin boards. In addition, many users group libraries contain GIF files.

"What we did with GIF Mania was thought to be impossible," Lamberti says. "After teaming up with Barry Boone, we knew the impossible was within our reach."

GIF Mania is fully menu driven and includes complete drive cataloging facilities. It can accomodate files stored on floppy drives, RAM drives and hard drives.

GIF Mania is available from Texaments for $14.95 (plus $3 for domestic and Canadian first class shipping or $8 for foreign air mail shipping). It requires a disk system, 32K memory expansion and either Extended BASIC, Mini-Memory or Editor/Assembler.

Although GIF Mania will operate on the Geneve in GPL mode, it will have the same color limitations as the TI99/4A; it does not unilize the advanced display modes of the Geneve. GIF Mania is compatible with Myarc's Hard and Floppy Disk Controller and all RAMdisks currently in use.

For information or to order, contact Texaments, 53 Center St., Patchogue, NY 11772; (516) 475-3480 (voice); or (516) 475-6473 (BBS).

TI Tower BBS

```
ga
[76703,603]   (1-3,Jim#) Ok, Eli, there is no one in the queue.  You have...
[76703,603]   (1-3,Jim#) cleared up a lot of questions tonite.
[76703,603]   (1-3,Jim#) Would you like to stay for our general chat session?
[76703,603]   (1-3,Jim#) We call it chaos.
[76703,500]   (1-8,Eli) Jim, thank you for the opportunity to do just that...
[76703,500]   (1-8,Eli) I would like to stay, but my dinner smells tantalizing
and I don't...
[76703,500]   (1-8,Eli) think I can keep myself away from it much longer (:=...

[76703,500]   (1-8,Eli) I will stop back when I'm done and see if the chaos sti
ll prevails!  ...
[76703,500]   (1-8,Eli) If anyone has follow-up questions, feel free...
[76703,603]   (1-3,Jim#) Thanks an awful lot!  Appreciate your rushing through
traffic!
[76703,500]   (1-8,Eli) to leave me a message on the board here or on musus. ga

[76703,603]   (1-3,Jim#) That is super, Eli.  I will see if we can generate a f
ew.
[76703,500]   (1-8,Eli) goodnight, jim and all!
[75116,2373]  (1-4,Jim#) Good night Eli
[71410,1321]  (1-5,Ron Walters) t'nite
[76703,500]   (1-8,Eli) my pleasure!
[71470,3146]  (1-7,Tom#) Good nite Eli, and thanks!
[76703,603]   (1-3,Jim#) Nite, Eli, & thanx
[76703,500]   (1-8,Eli) <poof>

ACTION> (Next, Down, Xm, List)
```

Message From Sysop, Gary Bowser:

TI Tower BBS 3,12,2400 BPS, 24 Hrs.
(416) 921-2731
ONLINE SINCE:

September 10th 1987

And today it turned Sept. 1 1990, only ten more days, and we will have been around three long hard years. I think that is the longest a TI BBS run on a TI has stay running 24hours 7days a week, minus a few hours here and there due to (cough,cough) system crashs. Anycase I been thinking of this great record, would it not be nice if the new BBS software was put online on Sept. 10th 1990 to mark our Third birthday, an Version 3 of the software, it seems we have done a new major reversion and added a bunch of features almost a year apart from each other. Anycase I will be trying my best to make this deadline