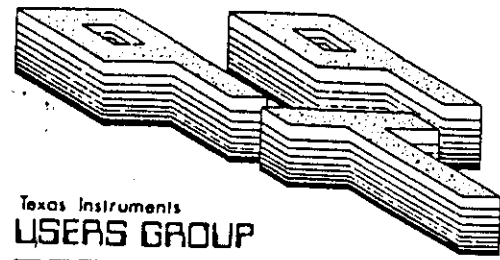


NEWSLETTER NINE-T-NINE

JUNE/JULY 1991
DOUBLE ISSUE



Texas Instruments
USERS GROUP
TORONTO

Friendly waves to fellow 9T9ers from John Van Weele (left)
and Andy Parkinson.



FROM:
9T9 USERS GROUP
15 KERSDALE AVE.
TORONTO, ONT., M6M-1C9
CANADA

To:

9T9 USERS GROUP

9T9 USERS GROUP EXECUTIVE COMMITTEE

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FULL MEMBERSHIP \$30.00 / year
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 (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 by phone.

The meetings are usually held on the last Wednesday 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 at Neil Allen's place, 52 Graystone Gardens, south of Bloor St., just west of Islington Ave., at 7:30 P.M. from 7:30 - 10:30 PM.

BBS

The 9T9 Users Group supports the Toronto BBS, The TI Tower 885 # (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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Any business wishing to reach our membership may advertise in our newsletter.

The rates are as follows (width by height):

FULL PAGE (7" x 10") \$30.00
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 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 ad's, may do so free of charge as long as they are not involved in a commercial enterprise.

NEWSLETTER ARTICLES

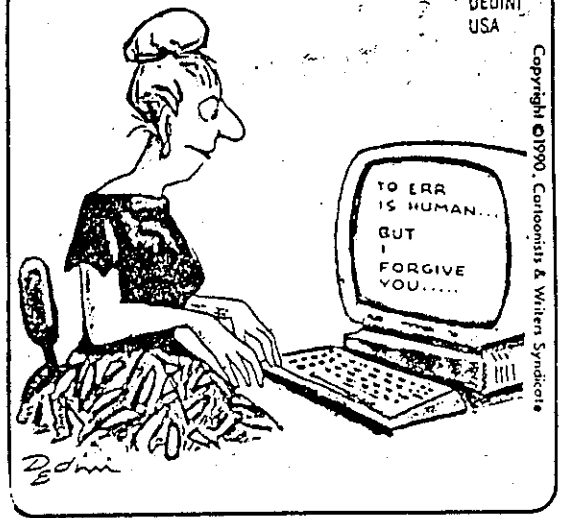
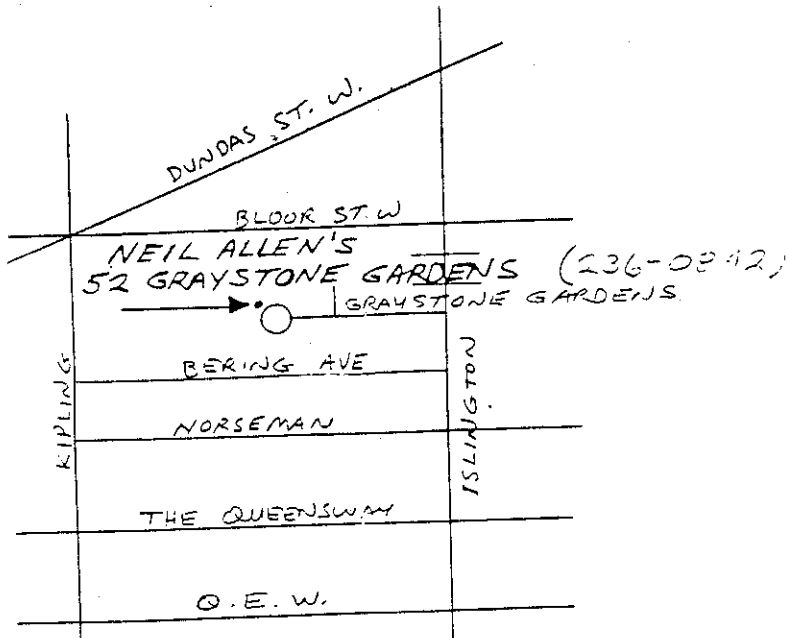
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MAY 29, 1991.

DUE TO CHANGES IN THE HOURS OF OPERATION AT C.R.S. THE MEETING OF THE 9T9 USER GROUP WILL BE HELD AT THE LOCATION NOTED BELOW.



Big 50!

TIDBITS

#50

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

Milestone for Tidbits:

This marks a personal milestone for both myself and Tidbits, in that this is the 50th edition. I don't think that any celebration is in order, though I feel something should be said as I've managed to write about something new or interesting about the TI and our community, for 50 consecutive articles! So much for milestones, just as long as they're not perceived as millstones!

Accelerator Card Info:

There was a new accelerator card, for the TI-99/4A, announced at the Lima, M.U.G. Conference, though I did not hear about the card, until I saw the transcript about the card on Delphi. The conference transcript is quite long, (about 8 pages long), so I hope to get a shorter article, in the form of a review, off of the databases, after the card has been released. It is still incomplete.

It is for this same reason, I have not printed anything about E.S.D.'s new Hard Drive Controller Card, as the public has yet to see the product available to members of the general community. I feel there have been too many premature announcements of new hardware/software, only to result in users in losing hard earned bucks on vaporware or non-existent products, (e.g. Ryte Data's publication and expansion box, The Press, Geneve Pascal, HCJ, ReflectIons, Grand Ram, etc.), in the past to announce something, unless I feel fairly certain that such a product will become genuine.

Strange Files:

Jerry Coffey, Manager of the TI Software libraries on Delphi, said that some of my archived files uploaded to Delphi seemed to be greater than 80 columns and wondered how it happened. I'll repeat my explanation, in case those on other systems find a similar problem.

Because I've, yet, to get Myword to access the various fonts, available from the font cartridge in my laserjet printer, I still write Tidbits, using Wordperfect on my clone. I use a 10 point font, which results in the editor compressing more than 80 characters per line. For purposes of uploading, I save an extra file in DOS format, which is strictly ASCII, with all control characters removed.

This ASCII file is sent from the clone, using Telix software as a text file, to my Geneve, (both the clone and Geneve are "hardwired" together through respective serial ports). The Geneve, using Fast Term Geneve, captures the ASCII file to disk. I, then, use Archiver to combine, archive and compress, all the files into a single file.

The archived file is transferred back from Geneve to the clone, using the same software, but as a XMODEM file transfer. This keeps the TI disk header intact. I may now use Y-Modem Batch, Z-Modem or CIS-B transfer protocols, respectively for Delphi, GENie and Compuserve, to upload the files faster than from a TI. Though, the main reason I use my clone, as I'm still not able to access GENie or Compuserve, using my V.42bis/MNP5 Zoom modem. And just recently, I've found that I can send the TI files to the clone, and then transfer to the databases, at a much faster transfer rate, using these protocols. Such protocols are not available to us Tiers.

Meeting Place Change:

Because of the erratic schedule that CRS made a meeting room available for the 9T9ers, it was decided to meet at Neil Allen's place, at 52 Graystone Gardens, (just south of Islington Ave. and Bloor St.). Meetings will continue on the last Wednesday of the month. Remember the summer break, in the months of July and August.

Also, the Assembly Language S.I.G. will continue to meet Wednesday's, at Neil's house. If you're interested in participating, contact Neil at 236-0842.

Errata:

I made an error,(not my first and most likely not last), last month, when I reported that the editor of the North Bay U.G. arrived at Lima, with camcorder in hand. Also, rather than Ralph making the comment, it was Gary Bowser, who told of the Canadian camcorder connection.

Sorry about that one, hope it doesn't break any homes!

23 Cassels Avenue
Toronto, Ontario
May 24, 1991

Have a safe summer and catch you in the fall!

9T9 Users Group
15 Kersdale Avenue
Toronto, Ontario

Dear Steve,

I want to thank you for running my ad in your newsletter! Since I submitted it to you, I've sold some things and added some others and would greatly appreciate it if you would run the following ad in your next issue:

FOR SALE

Books (including Compute's Guide to Sound and Graphics, Best of 99'er, Compute's TI Collection, and children's books) \$3 each

Cartridges:

Physical Fitness, The Attack, Fractional Numbers, Division I, Tunnels of Doom, Munch Man, Parsec, Typing Tutor, Video Games, Alpiner, Othello, Hunt the Wumpus, Pacman, Hopper, and Othello) \$3 each

Infocom Interactive Adventure Games:

Witness
Planetfall
Zork \$40 all
Hitchhiker's Guide to the Galaxy or
Deadline \$10 ea.

Speech Synthesizer \$30

Terminal Emulator II cartridge (for modem) \$5

Wico Joystick with TI cable \$8

Joystick adapter (for 2 joysticks) \$3

Video cable (5 pin) \$10

PHONE 690-9623 (please leave message)

Thank you!

Sincerely yours,

Laurie Mistysyn

read 22654
22654 10-APR 21:21 General Information
VIRUS, again!
From: GERRYVISEL To: ALL

Last night I downloaded a couple of files and was trying to dearc them when my TELCO disk files gall the sudden vanished, and the disk was renamed "JI GOTCHA!" and changed from DSSD to SSSD. I used the new "YMODEM" module d/l'd from here to get them.

Everybody be careful about files d/l'd with that module. I don't know if that is what is doing it, but this is the second time in the last few weeks, since I got the module file.

I'm sending the disk to JERRYC to check out.

Take care...much!
Gerry Visel

Enter FOLLOW for related Message(s).

FORUM>Reply, Add, Read, "?" or Exit> follow
22657 10-APR 21:59 General Information
RE: VIRUS, again! (Re: Msg 22654)
From: MARKWACHOLTZ To: GERRYVISEL

That happened to one of our members (Broward Computer Group) 'bout 3 months ago. I can assure you that it is NOT the new Y-Modem from Barry Boone. I'm not exactly sure on what the problem was, but we think it might have had something to do with his RAM disk... Question, do you have a RAM Card in your system? That will kind of help us out in trying to find the source. Besides, why would a good programmer, like Barry, tarnish his name in that fashipn? Till next Time! >/\ Mark V\acholtz

Press RETURN for related Message(s).

FORUM>Reply, Add, Read, "?" or Exit>
22663 11-APR 00:59 General Information
RE: VIRUS, again! (Re: Msg 22654)
From: DONEIL To: GERRYVISEL

Were you by chance using a Horizon with ROS 8.14? If so, you got an error in the ROS and Gary put aside an error message that says I GOTCHA. This error message should never come up since it is a un-defined error code, so there may be a bug in the ROS that hurt you. I personally have not had any problems with the file you are speaking of, I got it here also. Don.

Press RETURN for related Message(s).

FORUM>Reply, Add, Read, "?" or Exit>
22677 11-APR 23:23 General Information
RE: VIRUS, again! (Re: Msg 22657)
From: GERRYVISEL To: MARKWACHOLTZ

Apologies to Barry! Read this string for one saying it is in the ROS 8.14 from Gary Bowser. I have not checked mine yet, but I'll sure will.

I know these can get attached to "good" files, unknowingly even, and do not mean to impune anyone. I just want to find out what it is!
Gerry

Press RETURN for related Message(s).

FORUM>Reply, Add, Read, "?" or Exit>
22679 11-APR 23:25 General Information

RE: VIRUS, again! (Re: Msg 22663)
From: GERRYVISEL To: DONEIL

You are the second person to volunteer that. Thanks! I will check it with Gary B.

Gerry

Press RETURN for related Message(s).

FORUM>Reply, Add, Read, "?" or Exit>
22680 12-APR 00:05 General Information
RE: VIRUS, again! (Re: Msg 22677)
From: MARKWACHOLTZ To: GERRYVISEL

No problem!! I read these after leaving you my message!! I guess one needs to "clean up" ones program before reusing it... however Stuff happens!!! We are not perfect... Till next Time! >/\Mark V\acholtz

Press RETURN for related Message(s).

FORUM>Reply, Add, Read, "?" or Exit>
22691 12-APR 22:44 General Information
RE: VIRUS, again! (Re: Msg 22680)
From: GERRYVISEL To: MARKWACHOLTZ

This is for the world, actually.

Contact with Gary Bowser (OPA2001) indicates the !! GOTCHA! message is in the ROS (I found it there with a sector editor, even on my original copy.) It was only s'posed to show when 1) you have a non-II controller, and 2) you try to catalog a nonexistent drive.

Mine showed trying to cat DSK1....

I am following up with Gary on it.

NOTE: This "bug" does NOT appear to be in T>YMODEM like I supposed at one point, after downloading it, and DOES appear in the same sector of all my copies of ROS 8.14, even the original.

Please accept my apologies for assuming it might have been in the good programs. I just didn't want anyone else to catch it if it might have gotten attached!

Thanks to this forum, I think we found the bug!
Gerry

Press RETURN for related Message(s).

FORUM>Reply, Add, Read, "?" or Exit>
22696 13-APR 04:20 General Information
RE: VIRUS, again! (Re: Msg 22691)
From: JERRYC To: GERRYVISEL

Thanks to you for raising the question. It stimulated responses from those who knew about the problem, and surfaced some new knowledge for the rest of us -- so call 'em as you see 'em.
Jerry

Press RETURN for related Message(s).

FORUM>Reply, Add, Read, "?" or Exit>
22720 13-APR 20:40 General Information
RE: VIRUS, again! (Re: Msg 22691)
From: MARKWACHOLTZ To: GERRYVISEL

We must all realize that we are in a small boat together... We must depend on each other for our very survival! We must... Till next Time! >\\acholtz

FORUM>Reply, Add, Read, "?" or Exit>
End of Thread. Press RETURN to resume.

FORUM>Reply, Add, Read, "?" or Exit>
22656 10-APR 21:47 9640 GENEVE
RE: Geneve Software (Re: Msg 22651)
From: MARKWACHOLTZ To: JPLESIE

Those would be great games!!! I used to play them a lot! however I only have a 4A and it wouldn't do me any good... oh well...Till next Time! >\\acholtz

Enter FOLLOW for related Message(s).

FORUM>Reply, Add, Read, "?" or Exit>

No. 6743 * For Your Information *
On: 04/07/91 2:38pm
By: GARY KUEHN 15 (PITTSBURGH PA)
To: ALL
Sb: SOFTWARE

This is to informe you that the Geneve is not dead, yet. A new flyer from McCann software informs me that he has written a program called HQ-Stacks, similar to Hypercard and the like. I and Gary T. don't really understand exactly what it is supposed to do or be but it is good to know that McCann is still writing for the Geneve. He is as of now (in my opinion) the best writer out there for the Geneve and the only one to produce good quality, professional software for the beast. Pass this to your user group and any Geneve users.

Gary Kuehn

WEST PENN 99'ERS

Interesting last minute news break...

Sources say that Mike Makimik, who has done work for Asgard Software in the past, is starting his own company. He has written the Asgard Mouse Drivers and is currently working on the MIDI interface. It is unknown at this time if Asgard will still carry the MIDI device. Mike also has other plans for future TI support! For more information see the last issue of the Chicago newsletter (which we have in our newsletter library). You can also call the Chicago BBS, Mike is the sysop there, (708) 862-0182.

TI-99/4A CARTRIDGES

for sale by Barry Traver
835 Green Valley Drive
Philadelphia, PA 19128
(phone: 215/483-1379)

Addition and Subtraction 1 (\$17.95 + shipping) \$9.00
Addition and Subtraction 2 (\$6.95 + shipping) \$6.00
Adventure \$7.00
A-maze-ing (\$19.95 + shipping) \$7.00
Attack, The (\$2.49 + shipping) \$2.00
Beginning Grammar (\$19.95 + shipping) \$5.00
Blasto (\$14.95 + shipping) \$5.00
Car Wars (\$2.49 + shipping) \$2.00
Chisholm Trail (\$8.95 + shipping) \$6.00
Computer Math Games II (\$17.95 + shipping) \$9.00
Computer Math Games VI \$9.00
Connect Four (\$7.95 + shipping) \$7.00
Defender \$7.00
Dig Dug \$7.00
Early Learning Fun (\$3.95 + shipping) \$3.00
Early Reading (\$17.95 + shipping) \$14.00
Equations (\$17.95 + shipping) \$9.00
Fathom (\$17.95 + shipping) \$7.00
Home Financial Decisions (\$2.49 + shipping) \$2.00
Household Budget Management (\$17.95 + shipping) \$5.00
Hunt the Wumpus (\$14.95 + shipping) \$5.00
Integers (\$17.95 + shipping) \$5.00
Jawbreaker II (\$6.95 + shipping) \$5.00
Laws of Arithmetic (\$17.95+ shipping) \$5.00
Measurement Formulas (\$17.95 + shipping) \$5.00
Microsurgeon (\$17.95 + shipping) \$7.00
Multiplication 1 \$9.00
Munchman (\$2.49 + shipping) \$2.00
Number Magic \$7.00
Numeration 1 (\$17.95 + shipping) \$9.00
Numeration 2 (\$17.95 + shipping) \$9.00
Parsec (\$2.49 + shipping) \$2.00
Percents (\$17.95 + shipping) \$9.00
Personal Real Estate (\$2.49 + shipping) \$2.00
Personal Record Keeping (\$2.49 + shipping) \$2.00
Physical Fitness (\$9.95 + shipping) \$5.00
Picnic Paranoia \$7.00
Slymoids (\$14.95 + shipping) \$7.00
Sneggit (\$7.95 + shipping) \$5.00
Subtraction (\$17.95 + shipping) \$9.00
Tax/Investment Record Keeping (\$2.49 + shipping) \$2.00
Terminal Emulator II \$14.00
TI Invaders (\$2.49 + shipping) \$2.00
Tombstone City: 21st Century (\$2.49 + shipping) \$2.00
Tunnels of Doom \$9.00
Video-Graphs \$5.00
Weight Control and Nutrition \$5.00
Word Invasion \$9.00
Word Radar (\$17.95 + shipping) \$9.00

(Comparison prices in parentheses are taken from the TM Direct Product Marketing ads on pages 5, 7 of the April 1991 issue of MICROpendium.)

MIKES'S CORNER
OR
Butter Fingers Repair Section

By Michael O'Dowd, 9t9 Users Group.

Learning anything new is always hard. You will see books entitled "Maths "French, Spanish, or Leapraucaun Gaelic without tears. Some books claim that you can repair gadgets even if you do not know the back end of a screw driver. This is a lot of hogwash, my head and body aches every time I start to learn anything new, especially when I have no Angel (Mr fix it) smiling like a cheshire cat guiding my shaking fingers.

When I take a drive apart and I don't know what all those little chips do for a living, and one false move can damage the darn thing. I weep salty tears. (I'm an ex sailor).

In the last article I told about cleaning my disk drive and I kept technical details out of the article

If my butter finger pals out in computer land have paid attention, they now know how to hook a wire to a battery and play around with resistors and capacitors. You may have even decided to clean that drive and later when we get down to repairing a drive you will have a little confidence. After cleaning my disk drive I got carried away and I decided to clean my TI99/4a. It has not been cleaned in about ten years.

Some computer books tell you to prise off the caps of your keyboard and clean the connections underneath. Oh! it all seems so easy. DO NOT PRISE ANYTHING WITH YOUR SCREW DRIVER until you are certain that you will do no damage. First I unplugged my TIF99/4A and had a good look at it, and drew a sketch of the switches, screws etc. I purchased a little compressor lately which puts out a fine gentle flow of air. I dusted the keyboard with it. You can purchase a pressurized gas duster or use a photographers squeeze bulb to blow off the dust. Pull the keyboard switch gently and it should slide out easily. The switch is in two parts, the inner part fits over the switch on the power board and the part that slides out fits into it.

Place the computer face down on soft static free material and remove the 7 screws in the bottom housing and lift the housing off. The screws can stay in the housing. Do not turn it up as gravity will shoot the screws to the floor. Do not turn the computer over as the door on the connector and the power switch will fall out. take out the door. There are three screws in the keyboard, if they are removed the keyboard can be eased out, although you may have to loosen some screws in the LED light board.

The keyboard connection may be eased off the main board. This is not necessary. Blow some air around the keyboard, remove the crumbs etc.

DO NOT try to remove the keys caps with a screw driver. You may damage the connections. The key caps are fitted on to a plastic stem and can be wiggled off. I suggest that a little tool to keep downward pressure on the stem would ensure that the connections are not disturbed.

Do not pull the caps off, it is not necessary, because if you do not have the proper tools to take out the rest of the connection it is a waste of time and the connections may be damaged.

If you have an old junked keyboard you can learn a lot by taking it adrift; but that is a ship with a different rig.

The keyboard is now clean enough (although you could use contact cleaner on any dirty contacts) and you may now slide the keyboard into place and make sure the connections are pushed into position. Check that the plastic part of the switch is in place over the switch. Replace the slide door and the bottom and place switch into position then replace screws.

if you must look into your computer remove two screws on the board which houses the LED light and the power connection and move it gently away from the main board. Remove the three screws in the board container. One in each opposite corner and one in the middle of the back of the container. Do not remove the two bolts at the corner of the container. The other corners fit over little posts.

The container can be lifted out, be careful as the cartridge connection is on the board.

To look at the board the two bolts in the corner and one in the opposite corner and also two clips must be removed from the container. When these are removed, you will see in all its glory, the magic board with the chips and other electronic marvels.

Gaze at it, watch for static, (use foil) put the clips back, tighten bolts, screw in place, (watch the connections). Replace keyboard, and power plug board. Put power plug in place and tape it on to the board container. Replace bottom, No screws left over.? Good; Test Computer and heave a big sigh of relief.

Back to our lesson On OHM's Law, the last article discussed the basic equation:-

$E=I \times R$ (Volts)= I (current) multiplied by R (resistance).

$E/R=I$ Volts divided by resistance is equal to I (current).

$E/I=R$.

(The term Volts (V) or Electric Motive Force (E) is the same thing).

The "WATT" is used as the unit of power in electricity. One (1) Joule of energy is transferred each second.

Power is the capacity for doing work in a certain time and One horse power is the capacity to lift 550 pounds One foot in one second.

To put it in equation style.-

Joules divided by the time in seconds is equal to Watts.

Joules/seconds = Watts .

Also;- Joules is equal to seconds multiplied by Watts.

Joules = Seconds x Watts.

Now the ampere or amp is the unit of current strength and the unit of quantity is called the Coulomb and the strength of a current in amperes is equal to the number of Coulombs passing per second.

(Coulombs divided by the time in seconds is equal to amperes.)

Coulombs / Seconds = Amperes.

Now a Joule is equal to Volts (E) multiplied by Coulombs.

Joule=Volts x Coulombs or $J= E \times C$.

Watts = Joules/Seconds and as Joules = Volts multiplied by Coulombs; Volts multiplied by Coulombs can be substituted for Joules and the equation can be written as:/

(1) Watts = Volts x Coulombs / Seconds.

Watts = Volts multiplied by Coulombs divided by Seconds .

As Coulombs / Seconds is equal to Amperes. The equation can be written as:-

Watts = Volts multiplied by Amperes .

Which is:- Watts = Volts x Amperes.

(As you can see Watts = Volts (E) x Amps.)

(1). $W = E \times I$.

(2). and Remember in Ohms Law that $E = I \times R$. Written $E = IR$. substitute for E and the Equation becomes.

(3). $W = E \times I$ or $W = I \times R \times I$ or as it is written.
 $W = I$ squared Multiplied by R.

So the Two equations for Power (Watts) Are ;- $W = EI$ and $W = I$ Squared x R.

In mathematics when a number is multiplied by itself it is named the square of the number.

Thus 3 multiplied by 3 is called 3 squared which is written with a little figure 2 at the top of the 3.

Thus $3 \times 3 = 9$ is equal to 9. $E \times E = E$ squared. I cannot get a little two on my keyboard at present.

I have written a little program in basic to do the maths for you It has a bug in it. It solves one of the Watts problems twice, which is a good check on the program . I will re-write it later.

Try this :- A 60m Watt bulb is in a 110 volt circuit what current does it take.? What is its resistance ?.

```
100 PRINT " OHMS LAW PROGRAM FOR MATHS PROBLEMS"
110 PRINT "ENTER THE NUMBER 0 FOR THE UNKNOWN VALUES"
120 PRINT "ONLY ENTER TWO UNKNOWN VALUES TO FIND THE THIRD "
130 PRINT
140 PRINT
150 INPUT "E=":E
160 INPUT "I=":I
170 INPUT "R=":R
180 INPUT "W=":W
190 IF (I=0)*(R>0)*(E>0)*(W=0)THEN 200 ELSE 220
200 I=E/R
210 GOTO 450
220 IF (R=0)*(E>0)*(I>0)*(W=0)THEN 230 ELSE 250
230 R=E/I
240 GOTO 290
250 IF (E=0)*(I>0)*(R>0)*(W=0)THEN 260 ELSE 320
260 E=I*R
270 GOTO 300
280 W=E*I
290 GOTO 490
300 W=(I^2)*(R)
310 GOTO 520
320 IF (W>0)*(I>0)*(R=0)*(E=0)THEN 330 ELSE 360
330 E=W/I
340 PRINT "E=";E
350 GOTO 520
360 IF (W>0)*(I=0)*(E>0)*(R=0)THEN 370 ELSE 390
370 I=W/E
380 GOTO 450
390 IF (I=0)*(W>0)*(R>0)*(E=0)THEN 400 ELSE 420
400 I=SQR(W/R)
410 GOTO 450
420 IF (W>0)*(I>0)*(E=0)*(R=0)THEN 430 ELSE 150
430 R=W/(I^2)
440 GOTO 490
450 PRINT "CURRENT I=";I
460 PRINT
470 PRINT
480 GOTO 150
490 PRINT "RESISTANCE R=";R
500 PRINT
510 GOTO 550
520 PRINT "VOLTS E=";E
530 PRINT
540 GOTO 430
550 PRINT "WATTS W=";W
560 GOTO 130
```

EAR99'ERS TI99/4A USER GROUP

Newsletter Editor and
Newsletter Exchanges



Mike Curtis,
21 Treliske Road,
Roseland Gardens,
Redruth,
Cornwall,
TR15 1QE
England.

Dear Steve,

I am sorry that you have not received the last couple of issues of EAR 99 newsletter, this is mainly due to a change over of the running of the group. Our previous exchange officer has now relocated back to the US and I think a lot of exchange newsletters have gone with him or been thrown away, because I only heard afterwards that he had gone back! I am therefore writing to those that have to my knowledge exchanged with us recently. I have received several copies from you, so here is a little something from us here in the UK.

Could you possibly send any information about US groups that you have, I have a total of EIGHT names of US groups, not a lot really is it? I would like to exchange with as many US groups as one willing to, any TI information is welcome to us over here.

Another item is a possibility of software exchange, our group has a disk library and would like to expand it to keep members interested in their machines as what the TI can do now compared with five years ago, it will not be long before it will do as much as a PC. I only use my TI although I have three other computers, they are so limited compared with Taxy!

To cut down on postage costs, if it is going to be cheaper to send two issues instead of monthly, it is OK by me.

As you will see, due to the changeover we have had, the Copelands are no longer involved with EAR. I personally have a lot to thank them for over the past years and hope that they enjoy their new computer for as long as they did with the TI! Oh yes, the enclosed EAR newsletter is a double issue due to the changeover, that was what I was going to mention.

All the best for now, I look forward to many happy exchanges and perhaps even personal correspondence with you and ST9ers in the future.

Yours,

Mike

MIKE CURTIS

THE OTHER GUYS vs TI-99/4A

by

Richard Lynn Gilbertson

Little do most of us know just what we have in the TI-99/4A. So it made sense to write about it. First off just what do these other guys have, well more memory and a faster processor. They also have hundreds of companies with support lines and so many different versions of the same machines and software too, that it quite boggles the mind to count them. The other guys have years of major research invested into every software package and so many different operating systems of disk and processing data that it would take several books just to list the names.

Ok what does the TI-99/4A have to compete with that? Well hold on to your hat, the 99 does have several things and none of these are by any means minor.

First off lets get into a little history. When one of the other guys stores data onto a disk like say "STORE THIS" what you will find on the disk is "STORE THIS crlf". now the "crlf" means it's universal among the other guys for Carridge Return and Line Feed. So every line of the data on the disk has to have this at the end: "crlf" to tell the computer that this is the end of the string of data. Now the 99 has a simpler approach, "OASTORE THIS" is how the 99 does the same thing. The "OA" stands for 10 in hexadecimal and you can see being at the front instead of at the rear of the string means you don't have to read the whole line to see how long it is. The other guys have to load the whole line and make the computer count how long it is, while the 99 just looks at the first one and knows how long it is. If you are searching a disk you can see why it takes so long for the other guy.

The history of why that is comes from the concept the other guys system uses which was conceived in 1953. The 99 uses a concept from 1975. And yes the other guys have not changed because if they did all the software written would have to be totally re-written. Also forget them doing it any time soon. I should also mention that this system of ours is already being used on newer main frames.

Today I was asked if the 99 was compatible with the other guy and as usual was quite insulted. Let me show you why. Go ahead and ask another guy when was the last time he got out his Soldering Iron and added something unique to his system. First off he will look at you like you are truly crazy. Then he will ask 'what do you mean unique?!?'.
 Say 'unique like a interrupt switch to halt everything and do something else previously loaded. Or just stop what you are doing and do nothing. Or do a total reset and start over.' He will reply 'oh yea, I can do that last one.' and he is right he can only do the last one. His software has to do the others, the 99 is already built for those and doesn't care if hardware or software causes it to happen. Or ask the other guy to load and run his very best Telecommunications, Word Processor, Disk Manager, and Assembly Compiler from one disk without changing disks. Honestly he will day 'you can't get all that on one disk', reply 'Really! I can do it on mine. And I still have room for almost a third more.'

Also mention that most of the other guys you've shown your 99 to really love your telecommunications program. (Telco)

How about Operating Systems? The other guy on most of them has to load one before he can do anything. First off what are the advantages of this, one is for a particular application this will allow you to have the fastest program loaded possible, and the second is it will be as small as possible for the application. Disadvantages? History should be explained now as the advantages are distorted. Back in 1950 the concept of loading a new Operating System to speed things up was the best solution to lack of memory. Also it had the other advantages mentioned and it made sure the system was running at peak ability. But that is also where all the trouble started. You see if you want to run something else you'll load it someplace that is already being used. This means you will have to load a program that moves it out of the way, so you can load something else, then you can load this other program.

Does it require much thought to see it is similar to digging a hole and filling it with dirt from another hole so you can re-dig the original hole. That is not even without mentioning the fact that the original guy may on some systems have as many as three types of Operating Systems, and they are not compatible with each other even though they are all written for the same computer.

So the 99 doesn't have a problem of creating while loading the third program because it is too large. It knows the 2nd program used up all the space. The 99 uses what's called Relocatable Code, which means it just loads where there is space left, and knows how much memory is left. This is Artificial Intelligence. The 99 does not have to ruin everything in memory to see there is a problem, the other guy has to reboot from scratch.

Expansion of the system over time on the other guy also requires a history lesson. For lack of a better term we will say the other guy has a 'Hard Coded' system. I got that term from a Computer Science Professor as he coined it on the air. Hard Coded means that you can't run any program from the area dedicated to the disks or the RS232 or other peripherals. You can't load anything there or even move anything there without special hardware and software. The 99 only has one Hard Coded area, the operating system. The other guy has several and can't move them to another location, remember they are Hard Coded (physically located by hardware).

Let us say we want to add a 1 Meg of memory to a fully expanded system the guy has. Sorry no can do, Hard Coded. For the 99 that is no problem as it can without any modifications at all talk to 128 devices, so just make it a device and add it on. An example is the 192K Video Display Processor (9958) added to the 99. It can be upgraded and increased in size also. And the GRAM/GROM port for cartridges can talk to 640K of GRAM/GROM but turned into a device could be expanded to a unbelievable 4095 Meg or 4 Gigabytes. This is without even mentioning the RAVE CARD which is an other guy approach to expansion, but that is only 3.5 Meg maximum for the 99.

Five years from now I'll have my TI-99/4A and will still be adding devices and Cards to it. The other guy will have gone through two systems by then just to stay current with expansions. I mentioned one thing the Professor said. He also said that current Mini and Micro computers are similar to shoot-and-throw-away cameras.

The Tamira, 990/10, TI-99/4A, and NXT are the only Memory to Memory transfer, Memory Mapped Memory, and Memory to Memory Archetechiter computers ever built. So I don't think he knew about the TI-99/4A or it's relatives. All the rest are all like the 'Hard Coded' machines he mentioned, why do you suppose they have to replace the mother board for the simplest upgrade? 1950's concept in the 1990s!! Does the other guy really have that much on the TI-99/4A? We shall see. We shall see!

TODAY'S Quote of the Day

A doctor, an architect, and a computer scientist were arguing about whose profession was the oldest. In the course of their arguments, they got all the way back to the Garden of Eden, whereupon the doctor said, "The medical profession is clearly the oldest, because Eve was made from Adam's rib, as the story goes, and that was a simply incredible surgical feat."

The architect did not agree. He said, "But if you look at the Garden itself, in the beginning there was chaos and void, and out of that, the Garden and the world were created. So God must have been an architect."

The computer scientist, who had listened to all of this said, "Yes, but where do you think the chaos came from?"

User Notes

Installing a one-chip 32K expansion RAM in the 4A console

The following hardware project is by Col Christensen of Deception Bay, Queensland, Australia. Readers who undertake the project do so at their own risk.

Materials needed are:

1 TMS62256L-10 SRAM or similar

3 1k resistors

8 IN914 silicon diodes or similar

Some fine insulated wire, preferably the type used in wire-wrapping.

A fine tipped soldering iron.

Light gauge solder

The console modification outlined here is NOT for the novice solderer as some delicate soldering is required. The author takes no responsibility for the consequences of any person's attempting these modifications. The author and a number of others have carried out the modification successfully.

Having all necessary materials on hand, open the console, remove the motherboard and remove its metal shells to reveal the bare board. Refer to Fig 6 to help locate the ROM (Read Only Memory) chip with the number CD3227A marked on it. Its on the top of this chip that the RAM (Random Access Memory) chip will be installed. Some computers have ROMs with a different numbering system but go by Figure 6 to locate the one to build onto.

The RAM chip can be affected by static electricity so take care when handling it. Before you start, touch some large metal object to bleed any build up of static

charges from yourself.

Remember to double check your work AS YOU GO ALONG and be on the lookout for poor solder joints or for solder spreading and bridging across to some other nearby point.

1. On the RAM chip, bend out to 45 degrees or more pins 1, 2, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 24, 25, 26 and 27.

2. Snip off the thin part of all RAM pins bent out to 45 degrees.

3. Cut off 4 wires each about 50mm (2ins) long and solder one end of each to ROM chip pins 22, 23, 1 and 18 so that the wires stand vertically. They can be cut to correct length later.

4. Place the RAM on top of the ROM as in Figure 1 making sure that the RAM is facing the same direction as the ROM chip

and that one pin at either end of the RAM overhangs the ends of the ROM. The small indent in the top surface helps in locating pin 1 and the indents on both the ROM and the RAM must point in the same direction.

5. Solder RAM pins 3 through 9 to ROM pins 2 through 8.

6. Bend RAM(14) sideways to meet ROM(12) and solder (GND).

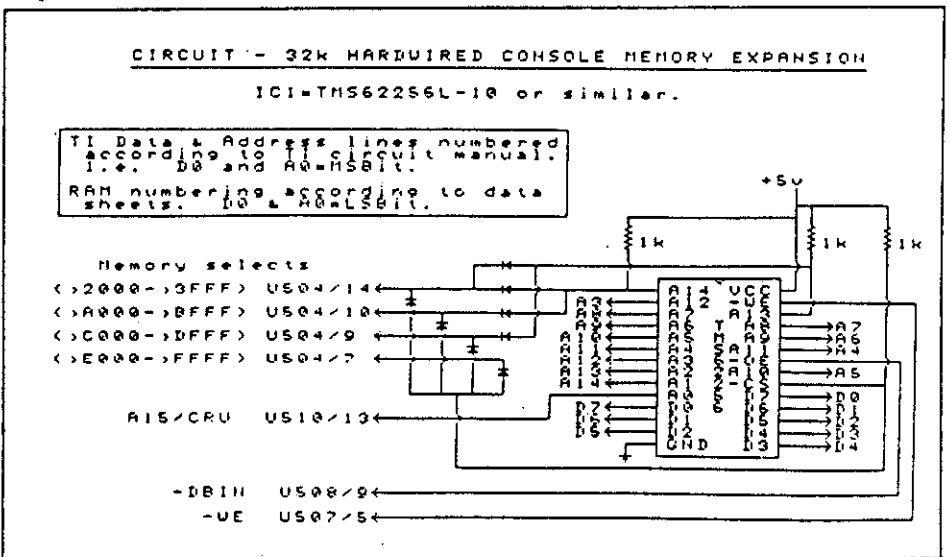
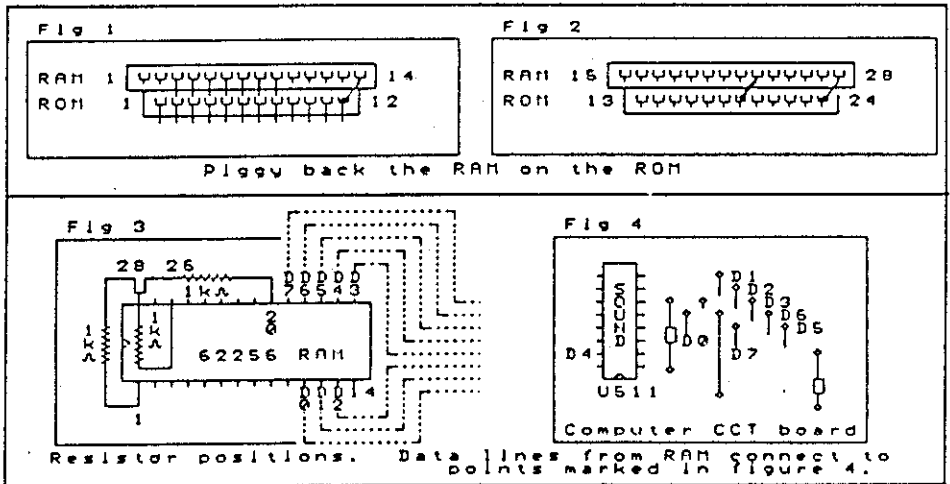
7. Bend RAM(28) sideways to meet ROM(24) and solder (+5v).

8. Bend RAM(23) sideways to meet ROM(19) and solder (All).

9. Connect the wire from ROM(22) to RAM(21) (A10).

10. Connect the wire from ROM(23) to RAM(24) (A9).

11. Connect the wire from ROM(1) (See Page 36)



User Notes

(Continued from Page 35)

over the top to RAM(25) (A8).

12. Connect the wire from ROM(18) over the top to RAM(2) (A12).

13. Solder a 1k resistor between RAM(20) and RAM(28). See Figure 3.

14. Solder a 1k resistor between RAM(26) and RAM(28) with the resistor on top of the RAM chip. See Figure 3.

15. Solder a 1k resistor between RAM(1) and RAM(28) with the resistor round the end of the RAM or beside the second resistor. See Figure 3.

16. The next to be connected are the data lines as in Figures 3 and 4. Referring to figure 6, find on the motherboard between the GROM adaptor port and the socketed SOUND chip the plated through holes as in figure 4. Connect wires from the data pins, D0 to D7, on the RAM chip to the plated through holes and pin 15 of the sound chip. It does NOT matter at all which is connected to which. Keep the wires tidy, weaving around any chips on the way and lying as flat as possible on the motherboard.

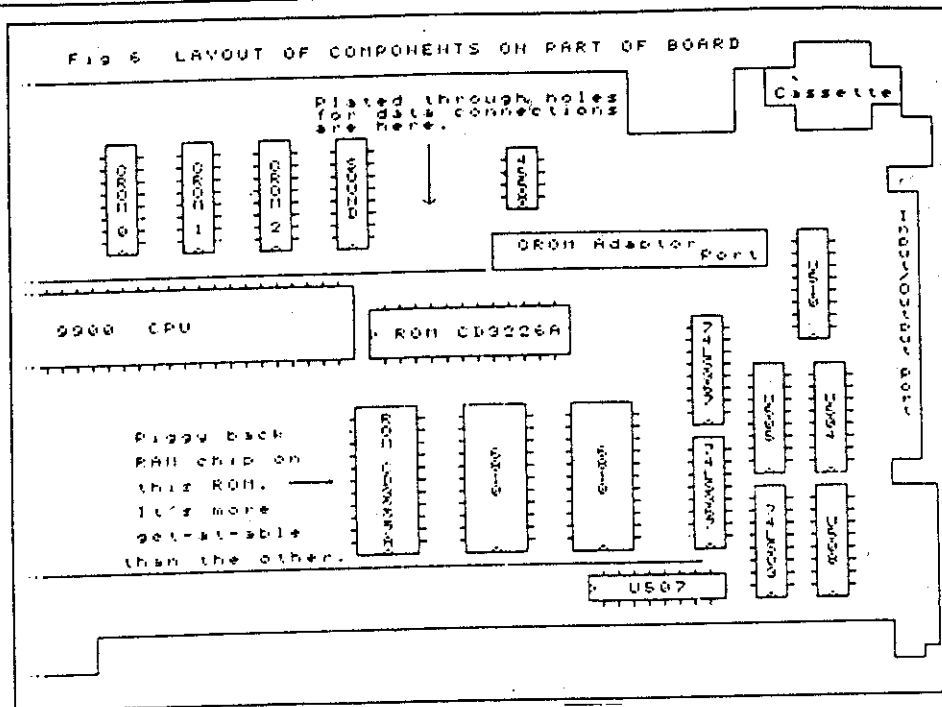
17. Take the 8 diodes and cut the wire at the "black" end of the glass body to a length of no more than 6mm (1/4"). These short ends are to be soldered to pins on U504.

18. Locate U504 and U505 on the motherboard. See Fig 6. They are both marked 74LS138 and the only ones in that area. See Fig 5 and make sure you can find the correct pin numbers on the chips. Once again, go by the small indent at one end on the top surface.

Read the next 6 paragraphs before starting on the diodes.

19. Solder the short ends of two diodes to U504(10) and two diodes to U504(14). The diodes should now be standing vertically, so bend over one from each pair so that the long ends on each intersect in midair over about the middle of U505. Solder the intersection and snip off closely the waste wire. Solder a wire from this junction to RAM(1) (A14).

20. Solder the short ends of two diodes to U504(9). Bend over one of this pair and the remaining one from U504(14) so that their long ends intersect in midair at about the far side of U505. Solder the intersection and snip off closely the waste ends.



21. Solder a wire from this junction to RAM(26) (A13).

22. Solder one diode vertically to U504(7). Solder the last diode horizontally so that its long ends project past pin 1 of U504. Bend over the three vertical ones so that all four long ends intersect in midair above pin 1 of the same chip, U540. Solder the intersection and snip off the waste wires.

23. Solder a wire from the junction to RAM(20) (-CS).

24. Solder a wire from U508(9) to RAM(22) (-DBIN).

25. Solder a wire from U507(5) to RAM(27) (-WE).

26. Solder a wire from U510(13) to RAM(10) (A15/CRU)

And that's it. Now treble check your work and also ensure that the resistors and diodes are lying as low as possible and will not contact the metal shell when it is installed. If you are satisfied that all is OK, reassemble the computer. When you switch on and choose extended basic from the option screen, Type SIZE. If all is well, the screen should report:

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FortI Card on a 9640? From Delphi's Message Base

The following information is taken from the message base on Delphi. It contains information about how the FortI twelve voice music card's hardware appears on the 9640. I do not know of anyone who is successfully using a FortI on the 9640. Can anyone out there help?

Like the speech synthesizer, the FortI card is located at page >BC. It is not fully decoded, and therefore could respond at pages >3C, >7C, and >FC as well. Here is the FortI address bus mapping:

Address bit	Source	Selects	Address	Sound Chips Selected
AME.A	NC	X	>8400	ALL
AMD.A	NC	X	>8402	2-4
AMC.A	Mapper	1	>8404	1,3,4
AMB.A	"	1	>8406	3,4
AMA.A	"	1	>8408	1,2,4
A0	"	1	>840A	2,4
A1	"	0	>840C	1,4
A2	"	0	>840E	4
A3	9995	0	>8410	1-3
A4	"	0	>8412	2,3
A5	"	1	>8414	1,3
A6	"	X	>8416	3
A7	"	X	>8418	1,2
A8	"	X	>841A	2
A9	"	X	>841C	1
A10	"	X	>841E	None
A11	"	CE4	active LOW	sound chip 4 enable
A12	"	CE3	"	"
A13	"	CE2	"	"
A14	"	CE1	"	"
A15	"	0		

On the 99/4R, writing to >8400 will load data into all FortI sound chips as well as the console sound chip. Writing to any FortI sound chip will also write to the console sound chip, I think. The only way to write to the console sound chip without writing to the FortI sound chips is by using address >841E. Note that the states of A6-A10 do not matter, such that >8400, >8420, >8440, >8460, etc., are all equivalent ways of accessing ALL sound chips, and so forth.

Jeff White

P.S.: When I put >BC at >8004 in the GPL mapper, the system stops.



T. I. - MULTIPLAN V4.0 by Audrey Bucher

Program Review
taken from
The Pug Peripheral
Pittsburgh User's group
May 1990

I just received in the mail this week, (May 1990) the new Fairware enhancement 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 GRAM KRACKER).

Features include:

1. Almost a 50% reduction in run time.
2. Patches documented for default filenames.
3. Slight change 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 to be much faster.

Simply copy the files, MPBASE, MPCHAR, MPDATA, MPINTR and Overlay to your old MPlan disk and you are ready to go. In an article I wrote on MPlan in the December 1987 issue 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 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 11 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 V 4.0 is a public domain program called Raggpatch 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 colors was so great, I decided to brave it and use the patch included on the disk. I loaded SETUP/STD into Funnelweb and proceeded to change the screen color from F4 to 17. While I was at it, I also edited the Default drive to DSK2. I saved the file and then 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 obtain 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.A.Green
1302 Chanteny Dr.
Cloucester, Ont.
CANADA
K1C 2K9

WORD PLAY

The PUNN Newsletter - Portland, OR

Funnelweb's DISKREVIEW

A review by John Bulakowski
- Nutmeg TI-99er's



Version 4.2 of Funnelweb has a useful utility program called DISKREVIEW. It is a combination disk directory, file review, and program loader. With this program you can:

- * Call up/print a directory of a disk in any drive
- * Protect/unprotect files
- * Delete/rename/view files
- * Load and run any E/A or Extended Basic language programs

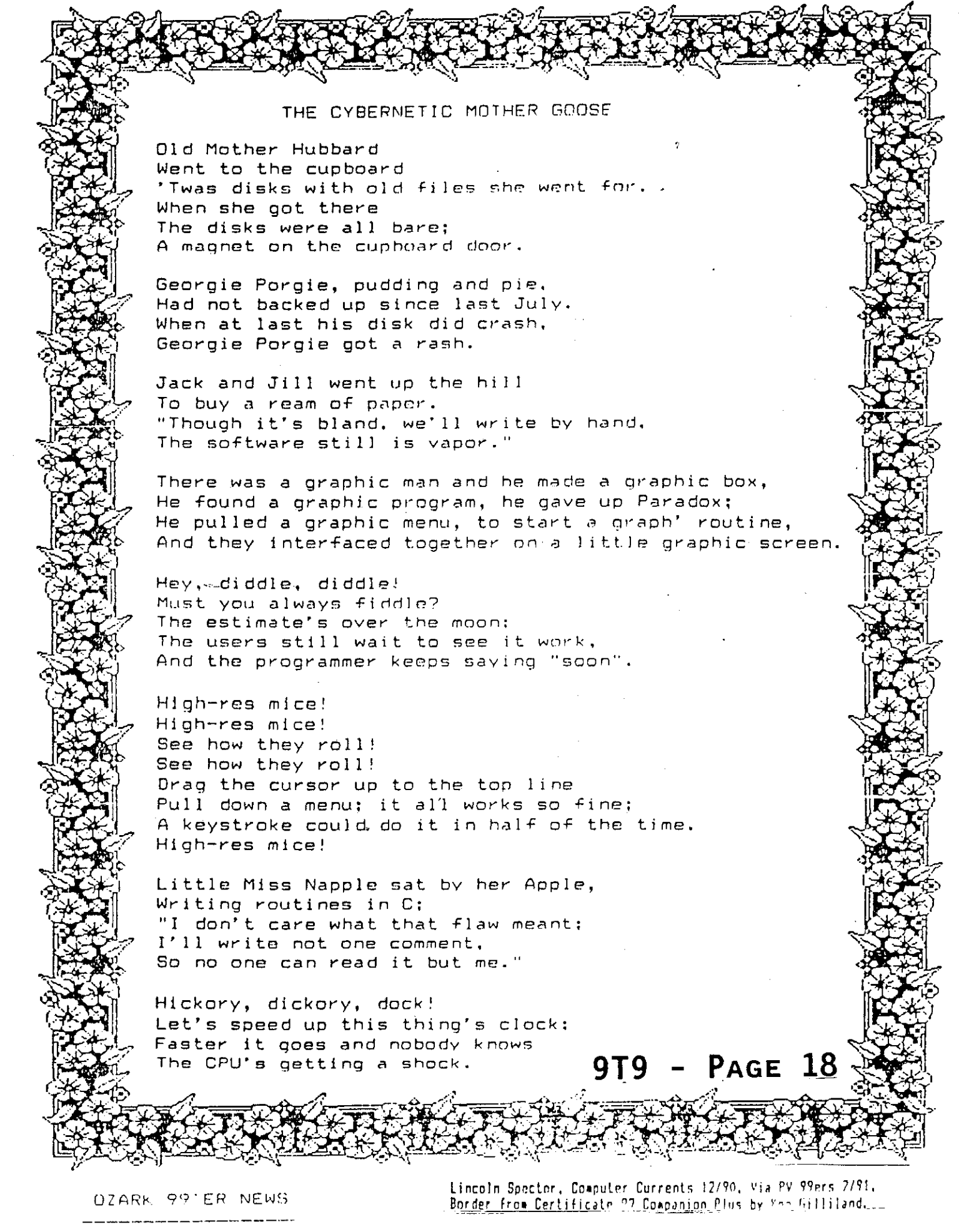
The last feature is particularly nifty because you don't have to know anything about the program structure that you're trying to run. All you do is place the cursor next to the program that has been listed by the directory feature, press R (for Run), press FCTN 6 (proc'd), and then a number (usually 1 to 3 in the case of assembly programs) of what the DISKREVIEW program suggests as appropriate. That's all. The selected program will then load and run. No more guesses as to trying E/A #1, 2, or 3. No more wondering what an "object" file is, or its name. I have gotten into the habit of running most of my programs through DISKREVIEW. It's also quick to load and run, which makes it a real competitor to other XB loaders. This, by the way, leads me to the only problem that I have found to date using this.

It appears that this program 'seeds' the randomize statement in XB programs with the same number each time the XB program is loaded and run. To give a practical example of what this means to the user, let's run an XB program that would generate a random sequence of five, one digit numbers. The following is such a program:

```
1 OPEN #1:"PIO" :: RANDOMIZE :: FOR I=1 TO 5 :: NUMB=INT(RND*9) ::  
PRINT #1:NUMB, :: NEXT I :: CLOSE #1::END
```

If this program was loaded and run through DISKREVIEW it produces the following sequence on my computer: 3,5,1,8,4. If it were loaded and run again through DISKREVIEW, the same exact sequence of numbers would be generated in lieu of the desired effect, namely a different set of numbers. By following this through, any XB program that utilizes a random number generator will always start the same each time it is loaded and run through DISKREVIEW. In the case, say, of a card game, this dooms one into playing the same hands every time. There are a couple of ways out of this problem. One is to alter the DISKREVIEW program. I'm not smart enough to do that. The other is to clear (FCTN 4) the XB program from running once it has been loaded through DISKREVIEW and then type in RUN (and press ENTER). This will clear the 'seed' number out and permit the program to run as advertised. For those of you that may have been using DISKREVIEW to load your XB programs and finding that perhaps the resulting game (or whatever) is always producing the same results, it may not be the fault of the XB program. Try the above suggestion and see what happens.

Notwithstanding the above, DISKREVIEW is a fine program. I recommend that if you haven't been using it, please do. You will be pleased with the results.



THE CYBERNETIC MOTHER GOOSE

Old Mother Hubbard
Went to the cupboard
'Twas disks with old files she went for.
When she got there
The disks were all bare;
A magnet on the cupboard door.

Georgie Porgie, pudding and pie,
Had not backed up since last July.
When at last his disk did crash,
Georgie Porgie got a rash.

Jack and Jill went up the hill
To buy a ream of paper.
"Though it's bland, we'll write by hand,
The software still is vapor."

There was a graphic man and he made a graphic box,
He found a graphic program, he gave up Paradox;
He pulled a graphic menu, to start a graph' routine,
And they interfaced together on a little graphic screen.

Hey, diddle, diddle!
Must you always fiddle?
The estimate's over the moon;
The users still wait to see it work,
And the programmer keeps saying "soon".

High-res mice!
High-res mice!
See how they roll!
See how they roll!
Drag the cursor up to the top line
Pull down a menu; it all works so fine;
A keystroke could do it in half of the time.
High-res mice!

Little Miss Napple sat by her Apple,
Writing routines in C;
"I don't care what that flaw meant;
I'll write not one comment,
So no one can read it but me."

Hickory, dickory, dock!
Let's speed up this thing's clock:
Faster it goes and nobody knows
The CPU's getting a shock.

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