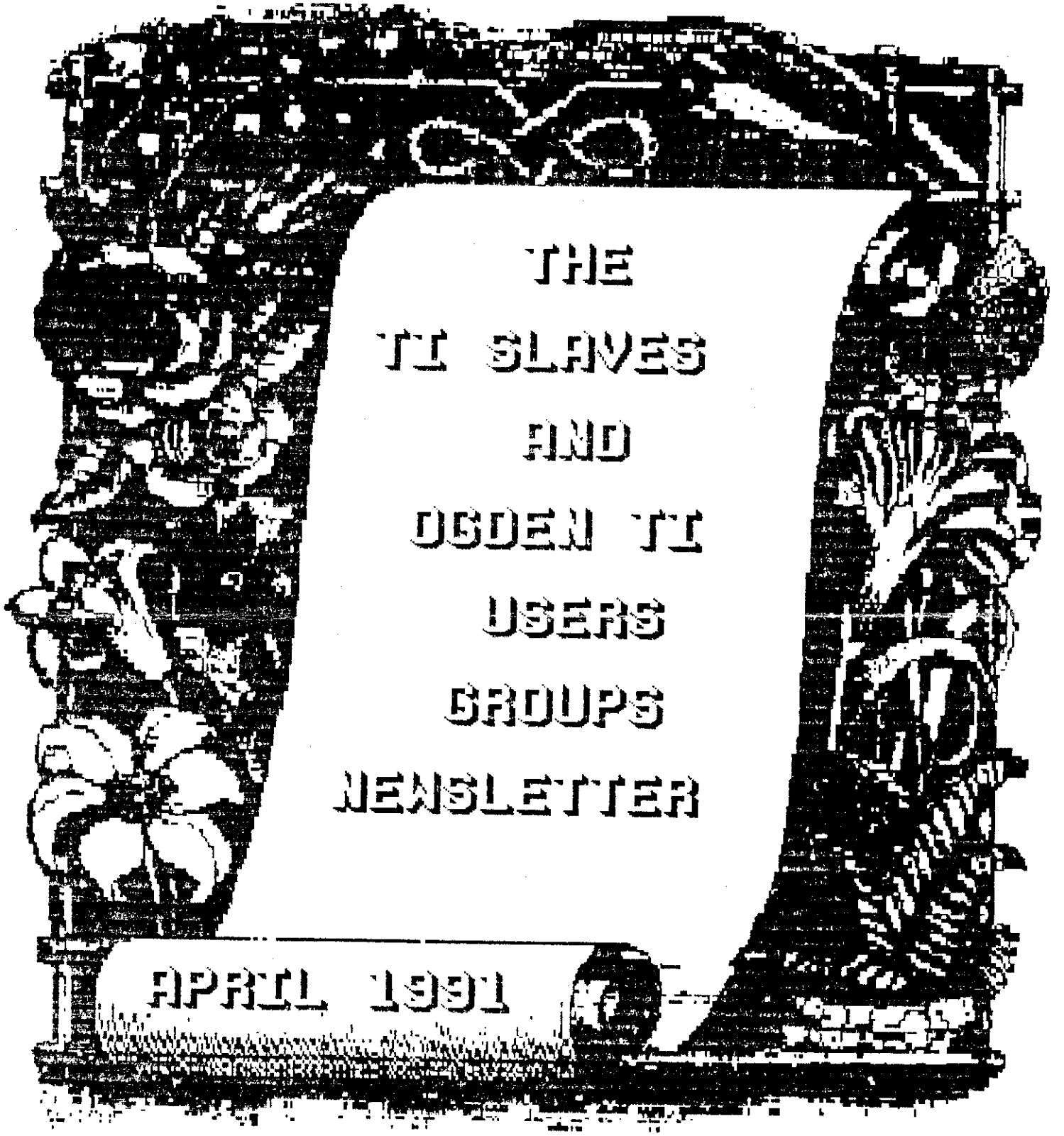
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NEWSLETTER
APRIL 1991

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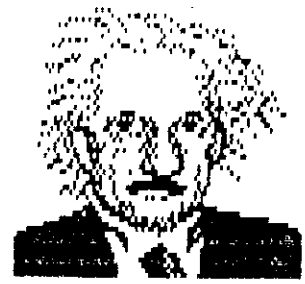


* by JACK SUGHRUE, Box 459, East Douglas, MA 01516 *

#14

GENTLEMAN GENIUS

Of the two tags, Gentleman and Genius, I think the former gets my approbation concerning the best way to describe John Willforth. My wife, Elaine, agrees. For John is first a real gentleman; and that is what you think of before realizing he's also a genius. Gentlemen, I think, are rarities today, even among TIers; though I've discovered more in the 99er ranks than in other walks of life. People like Charlie Good, Jim Cox, Jim Peterson, Barry Traver.

Geniuses, though, are a dime a dozen in the computer world, and most of them are far from civilized.

An example, small but significant: Lots of TIers have been to my home, all of them treated to Elaine's gracious welcome, her extended hospitality in the matters of food and lodgings, so they get to know her and discover, too, that we two rattle alone around our hut, now that our four tykes have leapt into the grownup world, returning us to "couplehood" these past two years. So any female voice answering our phone will be Elaine. But John is the ONLY "adult" TI person who will acknowledge Elaine's existence on the phone. He always says, "Hi, Elaine, this is John Willforth," when she answers, just as if she's not a non-person. Sometimes they converse so long I have to pry the phone from her fingers so I can get to talk to John.

With others who've been here, however, it's usually "Jack there?" when she answers, without even mentioning who they are.

I don't know. Maybe I'm old fashioned, but I still believe a lot in courtesy and friendliness and the acknowledgment of the existence of someone I've met.

Anyway, John's old fashioned in this way, too, and I like it: 19th Century values in a 21st Century mind. It's fun being in tune to someone as family oriented as he is. He talks about his wife (Fay) and his three daughters with such joy that you know love and sensitivity are a VERY LARGE part of his nature.

My wife and I talk about John so much that my son Matthew and his wife (Carolyn) wanted very much to meet him. The last time he came over for dinner, we had the "kids" over, too, and all of us enjoyed his pleasant, witty company all evening.

John's a talker. That's a compliment. And he can converse about almost anything but literature (as he claims he doesn't have time to read novels, thus leading to the time-worn argument in THIS house that all the major social changes in the world have been brought about by fiction ... and so on). It's fun arguing with John because the conversation is stimulating and he's still your friend in the end.

John's logical. He even tries to use logic with his teenagers (which probably makes him illogical, when you think about it).

He's hardworking (to a workaholic degree, I think) at some pretty heavy duty electronic wizardry. John even has a calculator on his watch, which he uses.

He writes well. His articles on printers, as well as the long-term articles on hardware (and software) are lucid, practical, and scary: SCARY in the sense that he takes apart consoles and P-boxes and anything else mechanical, electrical, and electronic that he can get his hands on and performs vivisectionist surgery on their innards. He seems to be able to radically modify anything, from computer chips to his backhoe and assumes everybody else should be able to do so.

Whew! Not me. My hands shake when I have to dump my pencil sharpener or fill my stapler.

But John's made me a believer. One evening he came up to my computer room, still chatting about his family, and, while carrying on the conversation, took apart my working P-box. Completely! Screws, nuts, bolts, fans, stuff, whachamacallits, and thingamajigs. Then he reversed my fan, explaining that it would keep my box cool (maybe even cooler) while it would cut down the noise to one-third. It did. We turned on other P-boxes in the room and compared them to the fix.

He also told me where and how to order floppy drives and how to install them (5.25 and 3.5 operate with no cable modification on the TI). I learned that I could buy any IBM compatible half-height disk drives and put them in my TI. [ERM Electronic Liquidators (1 800 776 5865)] for fully warranted reconditioned drives. I called, bought two Panasonic DSDD ($29 each!!!!), installed them myself, just like a computer grownup. Though they also sell cables and disks (for as low as .15 each DSDD), I ended up getting a Power Y cable for internal power connector ($.99) and an AT-HDDR cable set for double connector to controller ($2.89) and a whole lot of other things from another company he recommended: National Computer Accessories (916-441-1568). So, thanks to John, I was able to convert my setup on my school system from one SSSD to two DSSD at a cost of around $60! And does that make a LARGE difference in my ability to do TI things in my classroom. As a matter of fact I'm writing this at school on my quiet P-box, DSSD system and ♥ it! Everything works great. (Remember, we're talking about John teaching me, the man who has to use a manual to open a jar of peanut butter. You readers are chuckling over this "big" hardware deal, but John opened up new worlds to me. I plan to confidently upgrade another system soon and maybe even do a user group demo.

Which brings me back to John's generous spirit. While at a training session in Connecticut some months ago, John willingly came to our M.U.N.C.H. in Worcester, Massachusetts, one evening and shared some great insights and answered all kinds of questions, including some about things he had written as newsletter editor of the West Penn user group, which he founded many years ago to reach out to users outside the Pittsburgh area.

He was also the hit of the New England Fayuh that same week. Everyone there was thrilled to meet the man they all knew through his writings and references to his work by others. He ended up being the biggest TI star at the whole event. People at the fair were in awe of him and still talk about his visit, yet I've met very few humbler men.

Now, back at my desk at home, I'm using a console John modified a while ago and recently gave to me. It has a plexiglass cutaway of the interior housing of a Zenoboard containing a clock, speech, 32K, E/A, XB, ADVENTURE, TIW, DM, and a system Pause button. All switchable. I feel as though I died and went to TI Heaven.

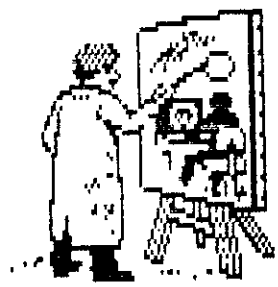
The man's a genius, no doubt, but more important, he sure is a warm and sensitive friend. To me, it's worth owning a TI just to have met John Willforth.

[If you use MBW-AGB/99 please put me on your exchange list.]

GRAPHICS NEWS

Last month I put Boyd Shugert's Bullish On Graphics in our Newsletter.
Our Groups send REGENA a Newsletter each Month.

I recieved a reply from REGENA about Boyd Shugert's Bullish On Graphics.
(This is what REGENA has to say)
Thank You REGENA for your Reply.



Mel Bragg, Editor
SLaVES and OTIUG
1396 Lincoln, Apt. B
Ogden, Utah 84404

Dear Mel:

I always enjoy the graphics on your newsletter, and the St. Patrick's Day and Easter graphics are no exception. I'll bet you have fun doing it.

The bulls on Page 4 of the March 1991 issue caught my eye, and I was glad to see them. However, Boyd Shugert wasn't the original author. Of course, a lot of times we don't know the artist of graphics. For example, a lot of the PrintMaster and NewsMaster type of graphics originally on Apple and IBM are now seen on all brands of computers with different authors compiling them. L.D.S. or religious graphics are available for a variety of computers.

Utah people may, however, have recognized the bull as the "Aggie" bull from Utah State University. My dad, George Sunada, originally drew the bull for USU, and his initials are hidden in the curls in the original drawings. This symbol is registered for university symbols. I received permission (and paid the fee) for limited use when I adapted my dad's drawing for TI graphics and published it in the May 1983 issue of COMPUTE! It was also reprinted as "Angry Bull" in my book, Programmer's Reference Guide to the TI-99/4A.

So this is really just a note to say that Boyd Shugert's TIGRAPHICS may not be all that "unique".

Sincerely,

REGENA

Regena

Cheryl Whitelaw

INCREASING THE POWER SUPPLY TO THE DRIVE SECTION OF THE PERIPHERAL EXPANSION BOX

BY DR. LERIC W. BRAY, M.D.
From TICO TOPICS, Filmore, CA, Sept. 1990 Newsletter.

Submitted by Harold Bingham

(Caution: This modification should ONLY be attempted by those persons who are able to use a soldering iron and have experience working with electrical equipment and parts. Any damage that results from following these instructions is the responsibilty of the person performing these tasks).

Myarc, Inc. Of Martinsville, NJ has produced a hard and floppy disk controller card for the TI-99/4A and the MYARC GENEVE 9640 computers. This has led to many people buying separate power supply boxes in which to house their new hard drive(s). The reason that people have had to make these purchases is because when Texas Instruments originally built the Peripheral Expansion Box, it was engineered with a slightly under power supply going to the drive section of this P.E.B.

However, by making a few minor modifications to the power supply board inside the P.E.B. you can house a low power half height hard drive INSIDE the P.E.B. along with a low power half height floppy drive.

PARTS AND EQUIPMENT:

1. Four (4) 3-AMP DIODES- Radio Shack part number 276-1141 or 276-1143.

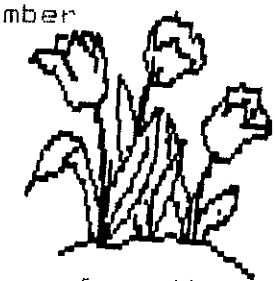
2. One (1) tube of HEAT SINK GREASE- Radio Shack Part number 276-1372.

3. One (1) TO 3 HEAT SINK.

4. One (1) 1000 uF AXIAL CAPACITOR (35WVDC) - Radio Shack part number 276-1032.

5. One (1) THM 6079 HEAT SINK.

6. One (1) 78H12 VOLTAGE REGULATOR (3-5 AMPS).



INSTRUCTIONS:

Turn off the POWER to the P.E.B. and remove all your cards and drives from the P.E.B. Next, unscrew all of the screws holding the P.E.B. together and disassemble the PEB you will then see the POWER SUPPLY board located in the section that also houses the fan. Carefully disconnect all of the clip-on connectors that connects the transformer to this card. Then using the proper size screw driverm disconnect the holder from the base of the PEB and unscrew the power supply from this holder. Be careful to keep the board oriented in the same position that it occupies on the holder.

With the components of the board facing twoard you, you will notice four small 1 AMP diodes in the upper left hand corner of the board. These are small solid colored diodes with a silver band around one end. They are identified on the board as D1, D2, D5, and D6. Very carefully desolder these diodes from the board. Make sure you pay attention to the pairing of the electrical connectors on the reverse side of the board. Just to the bottom right of these diodes, you will see a 47 uF capacitor identified as C18. Very carefully desolder this capacitor from the board.

Now that all of these items have been removed from the power supply board, the next step is to very carefully using a small jeweler's screw driver, enlarge the old openings that contained the diodes. (DO NOT TRY TO USE A DRILL BIT OF ANY TYPE TO PERFORM THIS TASK). This task must be done by hand. This is necessary so that the new diodes wires can fit into the openings until they all allow the wires to slide in easily.

After the openings have been widened enough to allow the new wires to be inserted, unscrew the screw and nut holding down the voltage regulator identified as Q2 and insert the THM 4079 heat sink under this device. Make sure that BOTH sides of the heat sink has heat sink grease on it. Re-tighten the nut and screw holding this voltage regulator in place.

The next step is to coat both sides of the TO-3 heat sink with heat sink grease and place this on the board along with the 7812 voltage regulator. Tighten up the two screws and nuts that hold it in place. After that is completed, the device may now be soldered into place on the board. You may have to bend or remove some of the TO 3 heat sink fingers to get this device to fit correctly!

Replacing the capacitor is the next step. Care must be taken that the POSITIVE lead is inserted into the opening marked (+). After both wires are in place, then this device can also be soldered into place on the power supply board.

The last step is to replace all of the diodes. Extreme care must be taken to make sure that these are oriented in the correct manner. On the board you will see that there is a drawing of these diodes underneath where they will reside on the board. There is a light band drawn to one side of the diagram. MAKE SURE THAT THE LIGHT BAND OR SECTION OF THE NEW DIODES ARE ORIENTED IN THE SAME MANNER WHEN THEY ARE PLACED IN THE BOARD. It is best to work from the bottom up when replacing these diodes. Be careful that the soldering is done correctly!!! (GET EXPERIENCED HELP IF YOU ARE UNSURE ABOUT THIS STEP)!! You do not want to have solder bridges or bad connections on this step.

Now that all of the soldering is done, you can place the power supply board back on its bracket and screw the bracket back to the floor of the PEB, and with a voltmeter test the output on the two lines going to the drive section. If everything was done correctly, you should have one nice 12 volt and one nice 5 volt reading.

The last step before re-assembling the PEB is to drill many 1/4 inch holes in the floor and back of the drive section of the PEB. This is to allow for ventilation for your hard drive.

Finally you can re-assemble the PEB and place your drives in their proper place not having to worry about the power supply to these devices.

I wrote about how to add an extra 12 volt, 1 amp regulator to the drive power supply section in the February 1988 issue of "MICROpendium". The previous modification can be used along with that modification. If you choose to do so, you can use the 12 volt 1 amp regulator to power your floppy drive and the new modification to power your hard drive.

I have been running a Seagate ST-138 hard drive and a TEAC 3 1/2 inch floppy drive in a modified PEB for the past year and a half with no problems.

RAINBOW COLORS

Those of you who have or will be updating your equipment such as a new printer this article maybe of some help to you now or in the near future.

Several word processors and other software lack commands or the ability to change the TYPE STYLE, PRINTING DOUBLE SIZE CHARACTERS, or PRINTING in COLOR.

We as TI-99 Users have that ability with the TI-Writer word processor software or the funnelweb farm software. Using the text editor you can embed printer commands within documents to control these functions without additional software help.

Along with our new technology of today's world,we are now able to add color printing to our documents that are created using the above mentioned word processors. Let's go no further, without saying,you must also have a printer with color ability to accomplish this.

To control these commands some new printers use commands that consist of a CAPITAL LETTER enclosed in double ((parentheses)),followed by a digit. Some may look like the following:

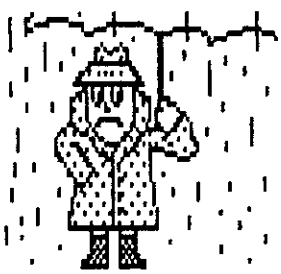
Type Style(Font): ((f))0 Courier
((f))1 Sanserif
((f))2 Orator with small capitals
((f))3 Orator with lower case
((f))9 Draft
Size: ((s))0 Standard Size
((s))1 Double width
((s))2 Double height
((s))3 Double width and height
Color: ((c))0 Black
((c))1 Red
((c))2 Blue

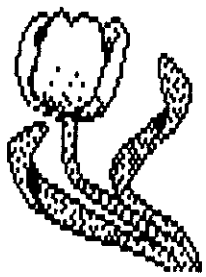
For example,to print in RED and Orator with lower case,you would embed the following in your document to produce this function.((c))1((f))3

After you have saved your document with these embedded commands you can use the formatter of each word processor to obtain this goal.The formatter will see each of the embedded commands but will not allow the printer to print these commands.Thus giving YOU the TI-99 User, still another step forward in the world as of today.

Submitted by

David Mischler





PUTTING IT ALL TOGETHER No. 9

by Jim Peterson

The hard part of learning to program is not in learning what the various commands do - it is learning how to put them together to do what you want them to do! Key in this little program and run it to see what it does, then study the explanation of how it does it.

```
1 !STRAIGHT-LINE CALCULATOR
   TINYGRAM by Jim Peterson
   Accepts input such as
   6+6-11*2+3/4
2 T,F=0 :: C$="+-*/" :: ACCE
PT AT(12,1)ERASE ALL VALIDAT
E(NUMERIC,C$):F$ :: L=LEN(F$
):: FOR J=1 TO L :: X$=SEG$(
F$,J,1):: P=POS(C$,X$,1):: I
F P=0 THEN 5
3 IF F=0 THEN T=VAL(SEG$(F$,
1,J-1)):: F=1 :: A=J+1 :: P2
=P :: GOTO 5
4 V=VAL(SEG$(F$,A,J-A)):: A=
J+1 :: GOSUB 7 :: P2=P
5 NEXT J :: V=VAL(SEG$(F$,A,
255)):: GOSUB 7 :: DISPLAY A
T(12,L+1):"=";STR$(T)
6 DISPLAY AT(24,1):"PRESS AN
Y KEY" :: CALL KEY(0,K,S)::
IF S=0 THEN 6 ELSE 2
7 IF P2=1 THEN T=T+V ELSE IF
 P2=2 THEN T=T-V ELSE IF P=3
 THEN T=T*V ELSE T=T/V
8 RETURN
```

The calculations are done from left to right, not in the mathematical hierarchy of multiplication and division first.

The variables T and F are reset to 0 because program execution returns here. A string of math symbols is placed in C$. The calculation is accepted into F$, using ERASE ALL to clear the screen; the VALIDATE will accept only numeric characters (numerals and decimal point) and the symbols assigned to C$. L measures the length of the string. The J loop examines the characters in the string, from the first to the last, extracting one character at a time into X$. POS checks whether that character is the 1st, 2nd, 3rd or 4th character of the C$ "+-*/" and places that value in P, or a 0 if it does not match any of them. In this case, X$ was a numeric character so execution jumps to NEXT J to continue the loop.

Otherwise, the first math symbol in the string has been found. F (a flag variable) still equals 0 so VAL converts the part of F$ from the first character up to the math symbol into its numeric form, in T. The flag F is set to 1 so that line 3 will be skipped over from now on. The position of the first character after the math symbol (the beginning of the next number) is saved in A and the value of P (the position of the math symbol in C$) is saved in P2. The loop continues, finding the digits of the next number, until another math symbol is found. F does not equal 0 so execution jumps to line 4. The segment of F$ starting from the position saved in A, to J-A (the character preceding the current math symbol) is converted to numeric by VAL and placed in V. The position to start looking for the next number is again saved in A. The GOSUB jumps to line 7. Depending on the position in C$ ("+-*/"), saved in P2, of the previously found math symbol, the value of this second number, saved in V, is added to, subtracted from, multiplied by or divided into the previous number saved in T, and the new value is saved in T. Execution then RETURNs to the last statement in line 4, to save the value of P (the location in C$ of the current, not yet used, math symbol) in P2, and the loop continues.

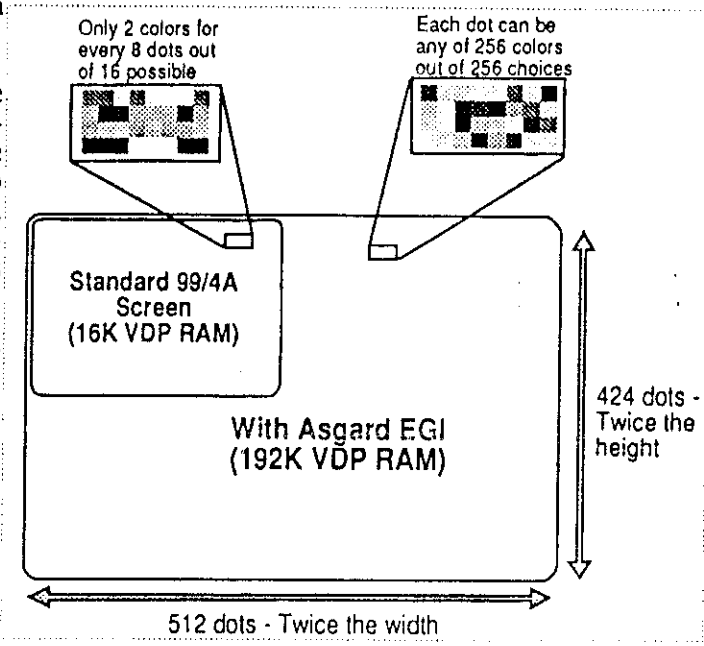
When the loop is completed, in line 5, the value of the final numeric characters is determined, the GOSUB again uses the value saved in P2 to determine the final calculation, and the result is printed out. Since the original input was in row 12, column 1, and the length of the input was saved in L, L+1 places the "=" directly after it, and converting the value T into a string by using STR$ causes it to print directly thereafter without an intervening space.

If S (status) in the CALL KEY is 0, it means that no key was pressed, so the line is repeated; otherwise, execution goes back for another input.

ASGARD
Extended Graphics Interface

The *Asgard EGI* is an easy-to-install "sidecar" like device for the TI-99/4A that radically expands the graphics capabilities of even a console-only TI-99/4A computer to the level of a VGA display on an IBM compatible computer, at a comparable cost.

This device features the 9938 video processor - which is 100% compatible with the video chip installed in the TI-99/4A. When installed it is "invisible" to the 99/4A unless you run a program specifically designed to take advantage of it. All other TI-99/4A software views the *Asgard EGI* as simply a standard 99/4A display - and runs flawlessly. Software designed to take advantage of it, however, can be astounding!



The *Asgard EGI* can generate a display of up to 512 dots wide by 424 dots high - a higher resolution then a standard Apple Macintosh - with up to 16 colors per dot (where every dot can be one of 16 colors). It also supports 7 other new graphics modes including a lower resolution mode that offers 256 dots by 424 dots where every dot can be one of 256 different colors! Several 80-column text modes are also offered. The *Asgard EGI* also expands the video memory of TI-99/4A from 16K to 192K, and offers such features as multi-color sprites, built-in commands for bitmap graphics, etc.

Extending the graphics capabilities would seem to be pointless unless there is software to take advantage of it. Recognizing that, the *Asgard EGI* comes with several disks full of 80-column software, including an 80-column word processor and disk manager, version of Multiplan, and terminal emulator. Additionally, the card functions with dozens of commercially available products: including Asgard Software's *PrEditor, HardMaster, Paint Pro, Spell It!, Typewriter, Page Pro Banner Maker,and* dozens of other programs in the works. Coupons offering discounts for these items are also included.

The *Asgard EGI* works out of the box with a standard composite monitor, and will also function with Analog RGB monitors. The interface is attached much like a Speech Synthesizer, and has a port for plugging in other devices (such as a Corcomp Micro-Expansion box or a PE-Box). Extensive documentation is included for both users and programmers. The device carries a standard 90-day warranty and service contracts are available. Compatible with both NTSC and PAL displays. The only requirement is a TI-99/4A console.

Originally manufactured in Germany by Mechatronics, the *Asgard EGI* is a proven device with almost 1000 installed. Shipping date expected to be Feb.1, 1991. *Suggested retail $249.95. S&H: U.S., Can. add $15.00, Airmail $20.00.*

Item No. P03

CABLES

EGI Monitor Cable: Custom monitor cables for the EGI . *Suggested retail price $24.00.*

Item No. C01

"Y" Cable: Useful for both the Asgard Mouse and MIDI Master. *Suggested retail $18.00.*

Item No. C02

Hayes Modem Cable: Attach any Hayes compatible modem to your TI-99/4A, or any PC to your 99/4A for direct transfers. *Suggested retail $18.00.*

Item No. C03

Epson Printer Cable: Attach an Epson or compatible to your 99/4A. *Suggested retail $22.00.*

Item No. C04

Shipping on Cables $2.50 U.S./Canada - $5.00 Airmail

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NEWSLETTER EDITOR FOR BOTH GROUPS		NEL BRAGG	393-9605

APRIL 1991 NEWSLETTER

TI SLAVES:
OUR NEXT MEETING IS APRIL 20 1991 AT 9:00 am. WE MEET IN THE DISABLED AMERICAN VETERANS HALL AT 273 E. 800 S. PLEASE BE THERE PROMPTLY.

OGDEN TI USERS GROUP
OUR NEXT MEETING IS APRIL 6th AT 9:00 am. AND APRIL 16th AT 7:30 pm. WE MEET AT THE OGDEN MUNICIPAL AIRPORT IN THE FIRST BUILDING JUST EAST OF THE NEW TOWER.

Slaves & Otiug
1396 Lincoln APT B
Ogden, Utah 84404