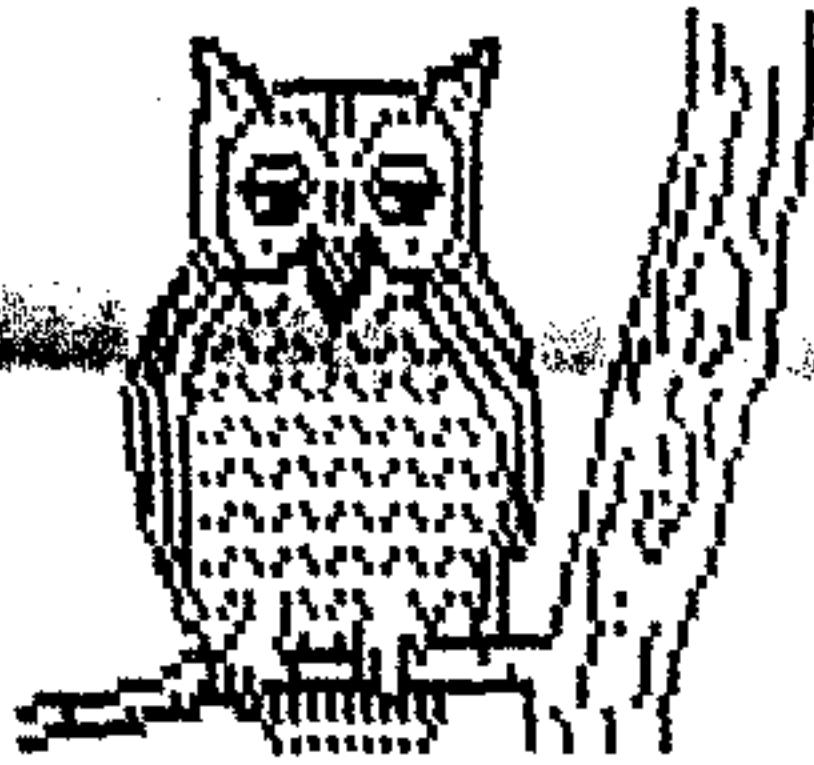
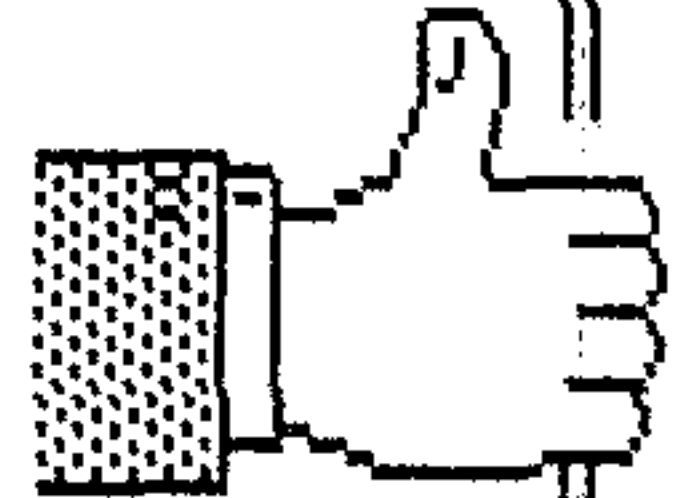


TI-99 / "P.Y.I." VIDEO

THE M.U.N.C.H. "INTO THE 21ST CENTURY (& THEN SOME) PROTECT YOUR INVESTMENT TI TAPE"



BECOME A WISE OLD OWL. LEARN HOW TO PROTECT YOUR TI INVESTMENT, SO IT WILL BE WITH YOU WELL INTO THE 21ST CENTURY.

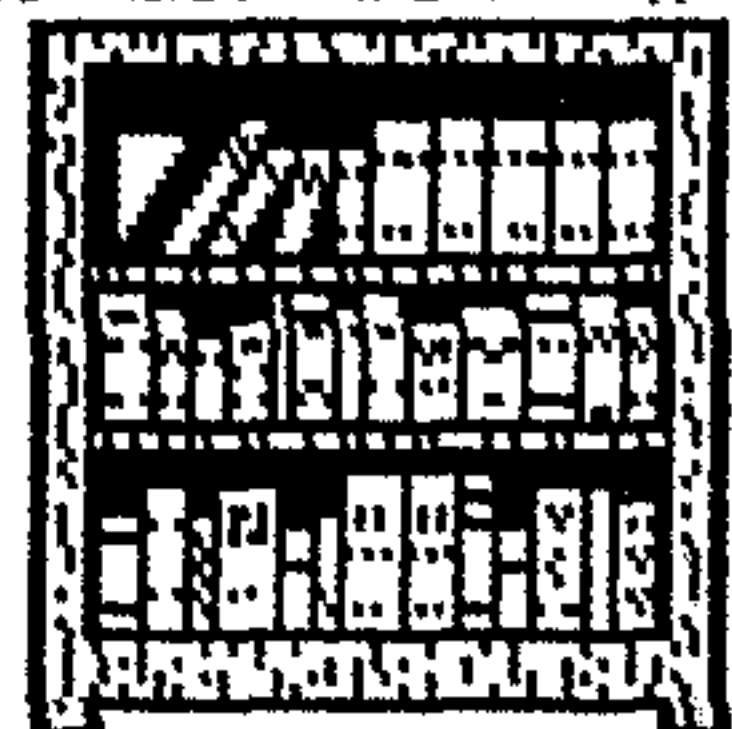
THE "P.Y.I." VIDEO PRODUCED BY THE M.U.N.C.H. USER GROUP OF WORCESTER (MA) IS DESIGNED TO DO JUST THAT.

THIS PROFESSIONALLY-PRODUCED VIDEO FEATURES EXCEPTIONAL TUTORIALS ON HOW TO TAKE APART YOUR TI (BEIGE AS WELL AS BLACK & SILVER CONSOLES); HOW TO IDENTIFY THE VARIOUS PARTS OF THE INNER CONSOLE; HOW TO CLEAN THE CONSOLE & THE PORTS (THE IMPORTANT TUTORIAL); HOW TO DETERMINE WHICH MATERIALS MAY BE USED FOR VARIOUS CLEANING ACTIVITIES (DISKS, TAPES, KEYBOARDS, ETC.); AND HOW TO CHEAPLY CHANGE A RESISTOR TO IMPROVE YOUR MONITOR IMAGE BY 40%.

THESE AND OTHER INNER WORKINGS OF THE TI ARE EXPLORED IN A DETAILED, OFTEN HUMOROUS, AND VERY INTERESTING TUTORIAL BY JACK SUGRAVE, BRUCE WILLARD, CORSON NYMAN, LOUIS HOLMES, CHRIS GEORGE, AND JIM COX.



THIS VIDEO IS RIGHT ON TARGET WITH SUCH SUPER DETAIL YOU CAN READ THE MODEL NUMBER ON THE CONSOLE! ~ IF A PICTURE IS WORTH A 1000 WORDS, THEN THIS VIDEO IS WORTH A 1000 BOOKS. -- TO GET YOUR COPY, SEND \$9.95 & \$3.00 S&H TO: M.U.N.C.H. VIDEO, C/O JIM COX, 905 EDGEBROCK DRIVE, BOYLSTON, MA 01505.



The National Committee for TI Standards (NCTIS)

Committee proposal, generated at Fest West 1992, Phoenix Arizona.

To form hardware, software and configuration standards to extend the life of the 99/4a and bring order to the community.

In these hard times, the TI community needs a direction to go. In the past other committees have been formed, such as ANSI, to generate standards for hardware and software developers to follow. The standards set forth by NCTIS will aid the users and developers in providing a better software/hardware solution for you. Once standards are set, it is recommended that all current and new software is labeled as standard #1... compliant. These standards should have acronyms for easy recognition.

The following guidelines were discussed at a "Vendors Forum" on February 15, 1992 in Phoenix Arizona. These are recommended standards for the community to ponder upon until May 1992 at the Lima fair, at which time the standards will be decided and publicized.

LEVEL #1: TI 99/4a Console, 32k memory expansion, cassette, and EA/5 loader (EA, Supercart, TI Writer, Multiplan, etc.)

LEVEL #2: Level #1 system PLUS: RS232, and DSSD Disk drive and controller

LEVEL #3: Level #2 system PLUS: at least 128k of CPU RAM, bankable at the >6000 space.

LEVEL #4: Level #3 system PLUS: 9938/58 VDP with 192k VDP RAM

PLEASE remember that these are recommendations generated by this first meeting, and are by no means locked in stone. We are presenting these ideas to you, the user, the developer, the market. Please take our recommendations and think carefully about them, and forward your ideas to your local user group, and then on to the Lima fair.

We appreciate your support.

JACK + LOU HOPE TO GO TO THE LIMA FAIR. IF YOU HAVE ANY OPINIONS ON THE ABOVE, PLEASE LET US KNOW AT THE NEXT TWO MEETINGS.

I THINK THESE ARE REASONABLE STANDARDS. - JIM

PROGRAMMING MUSIC THE EASY WAY

PART 1

by Jim Peterson

A while ago, I wrote an article about music programming in which I said that it was easy but that you almost had to know how to read music. Well, it is still easy to program, but no longer necessary to know how to read it.

Personally, I am about like the country fiddler who admitted that he could read music a little, but not enough to hurt his playing. I know just a little about reading music but that has been all I needed to know to program more than 50 songs. And, if you have ever heard my Tigercub Country or Tigercub Gospel disks, you will know that I have programmed those songs in a wide variety of styles.

Now, I have put together a few little routines to enable anyone to program music on the TI-99/4A very easily, and in many ways. You DON'T need to know how to program and you DON'T need to know how to read music!

First, key in this one-liner and save it as DSK1.SCALE, MERGE

```
100 DIM N(36):: F=110 :: FOR
  J=1 TO 36 :: N(J)=INT(F*1.0
59463094^(J-1)+.5):: NEXT J
:: N(0)=40000
```

Next, NEW to clear memory and then key in this music program, which we will use as an example to experiment with.

```
110 T=2 :: A=13 :: GOSUB 100
0 :: T=1 :: A=18 :: GOSUB 100
00 :: GOSUB 1000 :: T=3 :: G
OSUB 1000
120 T=1 :: A=20 :: GOSUB 100
0 :: A=22 :: GOSUB 1000 :: A
=23 :: GOSUB 1000 :: T=2 ::
A=27 :: GOSUB 1000 :: T=4 ::
A=25 :: GOSUB 1000
130 T=1 :: A=30 :: GOSUB 100
0 :: A=29 :: GOSUB 1000 :: T
=5 :: A=27 :: GOSUB 1000
140 T=1 :: A=25 :: GOSUB 100
0 :: A=27 :: GOSUB 1000 :: A
=25 :: GOSUB 1000 :: A=22 ::
```

```
GOSUB 1000 :: T=5 :: A=25 :
: GOSUB 1000 :: T=2 :: GOSUB
1000
150 T=1 :: A=27 :: GOSUB 100
0 :: GOSUB 1000 :: T=3 :: GO
SUB 1000 :: T=1 :: A=22 :: G
OSUB 1000
160 A=25 :: GOSUB 1000 :: A=
22 :: GOSUB 1000 :: T=2 :: A
=20 :: GOSUB 1000 :: T=4 ::
A=18 :: GOSUB 1000
170 T=1 :: GOSUB 1000 :: A=2
0 :: GOSUB 1000 :: T=5 :: A=
22 :: GOSUB 1000 :: T=1 :: A
=18 :: GOSUB 1000
180 A=22 :: GOSUB 1000 :: A=
27 :: GOSUB 1000 :: T=6 :: A
=25 :: GOSUB 1000 :: T=1 ::
A=18 :: GOSUB 1000 :: A=20 :
: GOSUB 1000
190 T=6 :: A=22 :: GOSUB 100
0 :: T=2 :: A=18 :: GOSUB 10
00 :: A=20 :: GOSUB 1000 ::
T=4 :: A=18 :: GOSUB 1000 ::
STOP
```

Save that by SAVE DSK1.SHEN just so you don't lose it, but keep it in memory, and enter MERGE DSK1.SCALE to get that one-liner back in.

The music you just keyed in is in one voice without harmony. Let's see what you can do with just one voice. Put in a line 105 D=200 and another line -

```
1000 CALL SOUND(T*D,N(A),0)
:: RETURN
```

Enter RUN, wait a second, and listen. If you didn't make any mistakes in keying in the music, you should hear a fairly pleasant single-note rendition of a beautiful old folk song.

Maybe you would prefer a higher key? Here's the neat part about starting with that formula in line 100 - besides the fact that it lets you key in frequencies in shorthand. To change key, just change that 110 in line 100 to a higher frequency number. They are listed in the "blue book" that came with your computer, but if you lost it they go upward 110, 117, 123, 131, 139, 147, 156, 165, 175, 185, 196, 208, 220.

You can also lower the key, providing you do not cause the lowest note in your music to go below frequency 110. In the piece you keyed in, the lowest

PROGRAMMING MUSIC THE EASY WAY (Con't)

note number used was 13 so you could go down 12 steps. The frequencies are not in the book, but they go 110, 104, 98, 92, 87, 82, 78, 73, 69, 65.

Want the music faster or slower? Just change the 200 in line 105.

Now let's see what else we can do with single-note music. Try this -
1000 CALL SOUND(T*D,N(A),0,N
(A)*1.01,0):: RETURN

Has a richer sound, doesn't it? How about this?

```
1000 CALL SOUND(T*D,N(A),0,N  
(A)/2,0):: RETURN
```

Or combine the two -
1000 CALL SOUND(T*D,N(A),0,N
(A)*1.01,0,N(A)/2,0):: RETURN
N

Multiplying a note by 1.01 in another voice will always give a more resonant sound, and dividing a note by two (providing its note number is not less than 13) will always be in harmony - so will multiplying by two, or by four.

How about some real deep down bass music? The TI's tone generators can only go down to frequency 110, but the noise generator can be tuned far below that. The timber of the sound is different and doesn't blend too well with the tones, so use it with caution - but it's great for a tuba solo. Try this -

```
1000 CALL SOUND(T*D,N(0),30,  
N(0),30,N(A)*3.75,30,-4,0)::  
RETURN
```

Want to go deeper? Try changing the 3.75 to 1.875 - too deep to even be musical, isn't it? Maybe you could improve it by raising the frequency in line 100.

Try changing the 3.75 to 7.5 - not bad, is it? So try doubling it again to 15 - oops! When you go that high you get some very sour notes!

So, go back to 7.5 and change one of those N(0) to N(A) and change the 30 following it to 0. Pretty good, so try also changing the other N(0) to N(A)*1.01 and the 30 after it to 0.

If any of those effects sound like something you might want to try in a piece of music someday, clear the memory with NEW, key it in and save it with SAVE DSK....,MERGE using a different filename for each one. Then,

after you have keyed in some music, you can very quickly merge in different routines and try them. You will find that different ones go better with different songs.

The routines we have been trying all play music with a very strong beat. For a smoother effect, try this -
1000 FOR J=1 TO T :: CALL SO
SOUND(-2999,N(A),0):: GOSUB
1100 :: NEXT J :: RETURN
1100 FOR D=1 TO 99 :: NEXT D
:: RETURN

You will notice one thing right away; with this method, a series of the same note gets run together into one long note. Later we will look at ways to get around that.

To change the tempo of the music, just change the value of 99 in line 1100.

Try this method in combination with the effects we tried previously.

Here's another one that gives a very nice effect -

```
1000 FOR J=1 TO T :: CALL SO  
UND(-999,N(A),0):: GOSUB 110  
0 :: CALL SOUND(-999,N(A)*1.  
01,0):: GOSUB 1100 :: NEXT J  
:: RETURN  
1100 FOR D=1 TO 8 :: NEXT D  
:: RETURN
```

Or for a more mournful sound -
1000 FOR J=1 TO T*4 :: CALL
SOUND(-999,N(A),0):: CALL SO
UND(-999,N(A)*1.01,0):: NEXT
J :: RETURN

You can control the tempo by changing the value of 4, but not as precisely as with the previous method, and it does not work well with bass notes. Try changing the 1.01 to 1.02 - also try erasing the *1.01 and change the following 0 to 8, for a mandolin effect.

Those are just a few of the effects you can create with just a single-note melody - experiment and see what else you can discover.

So, just imagine what you will be able to do using all three voices - coming up in part 2 of this article!

Tigercub Software
156 Collingwood Ave.
Columbus, OH 43213

My three Nuts & Bolts disks, each containing 100 or more subprograms, have been reduced to \$5.00 each. I am out of printed documentation so it will be supplied on disk.

My TI-PD library now has well over 500 disks of fairware (by author's permission only) and public domain, all arranged by category and as full as possible, provided with loaders by full program name rather than filename, Basic programs converted to XBasic, etc. The price is just \$1.50 per disk(!), post paid if at least eight are ordered. TI-PD catalog #5 and the latest supplement is available for \$1 which is deductible from the first order.

In a MICROpendium article, Jerry Stern remarked that it would be quite difficult to write a program that would accept input of a formula and then use the formula. He also thought such a program would be very slow.

No programmer could resist a challenge like that, so -

```
100 DISPLAY AT(1,3)ERASE ALL
:"PROGRAMMABLE CALCULATOR":
:" V1.1 by Jim Peterson"
: CALL INIT
110 DISPLAY AT(5,1): " Input
any mathematical formula
in the form of a valid B
ASIC statement, using A for t
he value to be calculat
120 DISPLAY AT(9,1): "lated a
nd B thru F for the values
to be input." Examples -
:" A=(B-C)^D-7": " A=B-C
+C*.1-C*.0575": " A=INT(ABS
(B-C))-PI"
```

```
130 DISPLAY AT(17,1): " To c
hange the formula, enter
0 for all values."
```

```
135 DISPLAY AT(20,1): "This v
ersion can handle FOR/NEXT l
oops, IF THEN ELSE, MAX, M
IN and <>"
```

```
140 DISPLAY AT(24,7): "PRESS
ANY KEY" :: DISPLAY AT(24,7)
:"press any key" :: CALL KEY
```

```
(0,K,S):: IF S=0 THEN 140 EL
SE CALL HCHAR(7,1,32,18*32)
```

```
150 A$="" :: DISPLAY AT(8,1)
ERASE ALL:"FORMULA?" :: LINP
UT F$ :: ON WARNING NEXT
```

```
160 DATA ),182,(,183,=,190,+
,193,-,194,*,195/,196,^,197
,ABS,203,ATN,204,COS,205,EXP
,206,INT,207,LOG,208
```

```
170 DATA SGN,209,SIN,210,SQR
,211,TAN,212,PI,221
```

```
175 DATA ::,130,FOR,140,TO,1
77,NEXT,150,STEP,178,IF,132,
THEN,176,ELSE,129,MAX,223,MI
N,22,<,191,>,192,"",179
```

```
180 RESTORE 160 :: FOR J=1 T
O 32 :: READ X$,W
```

```
190 P=POS(F$,X$,1):: IF P<>0
THEN F$=SEG$(F$,1,P-1)&CHR$(
W)&SEG$(F$,P+LEN(X$),255)::
GOTO 190
```

```
200 NEXT J :: J=0
```

```
205 P=POS(F$," ",1):: IF P<>
0 THEN F$=SEG$(F$,1,P-1)&SEG
$(F$,P+1,255):: GOTO 205
```

```
210 IF J=LEN(F$)THEN 240 ::
J=J+1 :: Z$=SEG$(F$,J,1):: I
F POS(".0123456789",Z$,1)=0
THEN A$=A$&Z$ :: GOTO 210
```

```
220 N$=N$&Z$ :: Z$="" :: IF
J=LEN(F$)THEN 230 :: J=J+1
: Z$=SEG$(F$,J,1):: IF POS(
".0123456789",Z$,1)<>0 THEN 2
20
```

```
230 A$=A$&CHR$(200)&CHR$(LEN
(N$))&N$&Z$ :: N$="" :: GOTO
210
```

```
240 A$=A$&CHR$(130)&CHR$(136
)&CHR$(0):: GOSUB 330 :: CAL
L HCHAR(12,1,32,250)
```

```
250 W=0 :: IF POS(A$,"B",1)<
>0 THEN DISPLAY AT(12,1): "B=
?" :: ACCEPT AT(12,5): B :: W
=W+B
```

```
260 IF POS(A$,"C",1)<>0 THEN
DISPLAY AT(13,1): "C=?" :: A
CCEPT AT(13,5): C :: W=W+C
```

```
270 IF POS(A$,"D",1)<>0 THEN
DISPLAY AT(14,1): "D=?" :: A
CCEPT AT(14,5): D :: W=W+D
```

```
280 IF POS(A$,"E",1)<>0 THEN
DISPLAY AT(15,1): "E=?" :: A
CCEPT AT(15,5): E :: W=W+E
```

```
290 IF POS(A$,"F",1)<>0 THEN
DISPLAY AT(16,1): "F=?" :: A
CCEPT AT(16,5): F :: W=W+F
```

```
300 ON ERROR 310 :: GOTO 320
310 CALL SOUND(400,110,0,-4,
0):: DISPLAY AT(12,1):RPT$("
",250):: DISPLAY AT(24,5): "
INVALID FORMULA" :: RETURN 1
50
```

```
320 IF W=0 THEN 150 :: GOSUB
350 :: DISPLAY AT(18,1): "A=
": A :: GOTO 250
```

```
330 CALL PEEK(-31952,A,B)::
CALL PEEK(A*256+B-65534,A,B)
:: C=A*256+B-65534
```

```
340 FOR J=1 TO LEN(A$):: CAL
L LOAD(C+J-3,ASC(SEG$(A$,J,1
))): NEXT J :: RETURN
```

```
350 !*****
*****
*****
*****
```

```
*****
*****
*****
*****
```

This method can also be used for the iterative calculator which I published in Tips #65. Just delete lines 100-140, 280-320 and 350 of the above and substitute-

```
100 DISPLAY AT(3,1)ERASE ALL
:"ITERATIVE CALCULATOR V1.1"
:"" by Jim Peterson"
: CALL INIT
```

```
110 DISPLAY AT(7,1): " Will
solve difficult equations s
uch as A=X^X-SQR(X) by iter
ation."
```

```
120 DISPLAY AT(11,1): " Inpu
t any mathematical formul
a in the form of a valid
BASIC statement, using A for
the known value and X"
```

```
130 DISPLAY AT(15,1): "for th
e value to be deter- mined.
:" Examples - ":" A=X^X-
SQR(X)": " A=SQR(X^X)"
```

```
140 DISPLAY AT(20,1): " To c
hange the formula, enter
0 for value to calculat
e."
```

```
280 DISPLAY AT(12,1): "A=?"
: ACCEPT AT(12,5): C :: DISPL
AY AT(16,5): "" :: IF C=0 THE
N 150
```

```
350 X=1 :: GOSUB 380
```

```
351 IF A<C THEN DISPLAY AT(1
4,5):X :: Y=X :: X=X*2 :: GO
SUB 380 :: GOTO 351 ELSE 353
```

```
352 IF A>C THEN DISPLAY AT(1
8,5):X :: Y=X :: X=X/2 :: GO
SUB 380 :: GOTO 352
```

```
353 IF A=C OR A=B THEN DISPL
AY AT(14,5): "" :: DISPLAY AT
(18,5): "" :: DISPLAY AT(16,5
):X :: GOTO 280 ELSE B=A ::
Z=(ABS(X-Y))/2 :: Y=X
```

```
354 IF A<C THEN X=X+Z :: DIS
PLAY AT(14,5):X ELSE X=X-Z
: DISPLAY AT(18,5):X
```

```
355 GOSUB 380 :: GOTO 353
```

Here's a little-known peculiarity of TI XBasic - 100 ACCEPT AT(1,1):M\$:: IF M\$="" OR ASC(M\$)<32 THEN 100 Now, if you press Enter, which is a null string or "" you would expect execution to go back to 100 - but it tries to find the ASCII of a null string, and crashes!

You must write IF M\$="" THEN 100 ELSE IF ASC(M\$)<32 THEN 100 .

And another peculiarity that caused me an hour of total frustration while trying to debug a program - it is well known that CALL KEY in mode 3, CALL KEY(3,K,S), will cause all subsequent INPUT or ACCEPT AT to be in upper case; but what it actually does is internally depress the Alpha Lock, so that ASCII 97 through 122 are read as 65 through 90 - and it disables character sets above 8, ASCII above 95, so that you cannot INPUT or ACCEPT even the printable characters ASCII 96 or 123 through 126, or any FCTN or CTRL input with an ASCII above that.

If you only use the Triton Super Extended Basic module for running programs, not writing them, you may not be aware of some of its most useful features. For example if you are answering an input prompt by typing something shorter over the de-

don't have to blank out the remaining characters - just use CTRL C. Take a look at page B of the manual for other useful features.

```
E(SEG$(X$,1,A)):C$
```

In a recent Tips, I gave a method for reading the entire 13- or 14-digit number which the TI has in memory, by printing it to disk in internal format and reading it back. If I had read the Extended Basic manual more carefully, I would have known a simpler method. If you know where the decimal point will be, just use an IMAGE 14 characters long. Try this - PRINT USING ".########":17/19.07

If you don't know where the decimal will be, this subprogram will do the job if the number is within the range of -9,999,999,999 to 9,999,999,999; otherwise it will be in exponential notation as usual.

```
100 CALL CLEAR
110 ACCEPT AT(10,1):X :: CALL
FULLNUM(12,1,X):: GOTO 110
20000 SUB FULLNUM(R,C,X):: P
=POS(STR$(X),".",1):: IF X>9
999999999 OR X<-9999999999 O
R P=0 THEN DISPLAY AT(R,C):X
:: SUBEXIT
20010 DISPLAY AT(R,C):USING
RPT$("#",P-1)&".&RPT$("#",1
4-P):X :: SUBEND
```

age. My one-liner is not as short but does a better job. I worked this one up from a routine in the Swedish newsletter "Programbiten". It will convert to/from any base from 2 to 36.

```
100 CALL CLEAR :: CALL SCREE
N(2):: FOR S=0 TO 12 :: CALL
COLOR(S,16,2):: NEXT S :: X
$="0123456789ABCDEF6HIJKLMNO
PQRSTUVWXYZ"
110 DISPLAY AT(3,5):"BASE CO
NVERTING" :: DISPLAY AT(10,1
):"From which base?": "" : "To
which base?"
120 ACCEPT AT(10,18)VALIDATE
(DIGIT)SIZE(-2):A :: IF A>36
```

```
130 ACCEPT AT(12,16)VALIDATE
(DIGIT)SIZE(-2):B :: IF B>36
OR B<2 THEN 130
140 DISPLAY AT(14,1):"Number
?" :: ACCEPT AT(14,9)VALIDAT
1 is added to the number of
150 FOR I=LEN(C$)TO 1 STEP -
1 :: D$=SEG$(C$,I,1):: IF AS
C(D$)>57 THEN E=ASC(D$)-55 E
LSE E=VAL(D$)
160 F=F+(E*A^(ABS(I-LEN(C$)
))): NEXT I
170 FOR J=INT(LOG(F+0.5)/LOG
(B))TO 0 STEP -1 :: G=INT(F/
B^J):: F=F-G*B^J
180 IF G>9 THEN H$=H$&CHR$(6
+55)ELSE H$=H$&STR$(G)
190 NEXT J :: DISPLAY AT(20,
1):H$ :: H$="" :: GOTO 120
```

100 CALL CLEAR :: ON WARNING
I have finally replaced my faithful Gemini 10X printer with the new NX1020R and it promptly gave me a problem until I tracked down a serious flaw in its logic. The manual fails to warn you emphasized print cannot be used in combination with condensed print. This is also true of other printers. If you try that combination with them, they condense but do not emphasize. The NX1020 gives me emphasized print but it is not condensed!

ESTORE 120 :: GOTO 110
The Coco column in Computer Monthly had a contest to write the shortest program to figure first class postage. My one-liner is not as short but does a better job.

```
100 INPUT "OUNCES? ":A :: PR
INT .23*(INT(A)-(INT(A)<>A))
+.06 :: GOTO 100
```

Here's how that works. The rate is .29 for the first ounce and .23 for each additional ounce, so we can just multiply ounces by .23 and then add .06 more to the total. However, partial ounces count as full ounces. INT(A) strips off any decimal portion so .23*INT(A) multiplies by the ounces not in-

cluding the decimal part, if any. (INT(A)<>A) compares A to the integer of A. If they are different, INT(A)<>A has a "truth" value of -1 and a double negative is a plus so /N(4):: N(1)=N(1)+I ounces to be multiplied by. Otherwise it has a "false" value of 0 so nothing is added.

A self-styled financial adviser has been making the headlines lately by claiming that anyone can become a financial wizard by buying a \$19 compound interest calculator. Save yourself \$19 -

```
average inflation rate of 4%
NEXT
110 DISPLAY AT(12,1):"A sum
of $ invested at Z
interest for years compou
nded times per year w
ill become"
120 DATA 12,11,5,13,1,4,13,2
0,2,14,12,3
130 FOR J=1 TO 4 :: READ A,B
,C :: ACCEPT AT(A,B)VALIDATE
(NUMERIC)SIZE(C):N(J):: NEXT
J
140 FOR J=1 TO N(3)*N(4):: N
(1)=N(1)+N(1)*N(2)/100/N(4):
: NEXT J :: DISPLAY AT(16,1)
:USING "#####.##":N(1):: R
```

In Tips #65 I described a method of using DSU to make the Funlweb Formatter recognize FCTM A, C and Z instead of &, @ and \$ to avoid garbage program listings. Jan

```
100 CALL CLEAR :: ON WARNING
NEXT
110 DISPLAY AT(12,1):"A sum
of $ invested at Z
interest for years compou
nded times per year w
ith tax rate of Z"
120 DISPLAY AT(16,1):"and av
erage inflation rate of
Z will have a buying power
of"
130 DATA 12,11,5,13,1,4,13,2
0,2,14,12,3,15,23,4,17,4,4
140 FOR J=1 TO 6 :: READ A,B
,C :: ACCEPT AT(A,B)VALIDATE
```

```
(NUMERIC)SIZE(C):N(J):: NEXT
J
150 N(2)=N(2)/100 :: N(5)=N(
5)/100 :: N(6)=N(6)/100
160 FOR J=1 TO N(3)*N(4):: I
=N(1)*N(2)/N(4):: I=I-I*N(5)
170 N(1)=N(1)-N(1)*N(6)/N(4)
180 NEXT J :: DISPLAY AT(19,
1):USING "#####.##":N(1)::
RESTORE 130 :: GOTO 110
```

By the first method, \$1000 invested at 7% for 10 years compounded quarterly would double in value to \$2001.60. By the second method, if the interest was taxed at 15% it would still be worth \$1950. But if you factor in an

that \$1950 would only have a buying power of \$1305 - if the price of bread today was \$1 per loaf and that price remained constant in relation to wages, you could buy 1000 loaves today or invest the money and buy 1305, not 2001, ten years from now.

I know that this formula is oversimplified, but there is no way to calculate accurately anyway, since future rates of taxes and inflation cannot be predicted.

method of using DSU to make the Funlweb Formatter recognize FCTM A, C and Z instead of &, @ and \$ to avoid garbage

Alexandersson in Sweden says that can be very dangerous. I should have mentioned that you should make the changes to a separate copy of Funlweb which you should not use to print text formatted by others, and you should not distribute text formatted with these alternative codes and those who use the version of TI-Writer which TI sold overseas should not use this method at all, because it uses those FCTM keys for special letters of foreign languages.

END

TI WORLD NEWS January 1992 compiled by Jim Peterson

According to Asgard Reflections, OPA (432 Jarvis St., Suite 502, Toronto ONT Canada M4Y 2H3) has acquired a contract to service all 99/4A related products in Canada, and has obtained a huge stock of cartridges, parts and peripherals.

TM Direct Marketing (1650 Broadway, Redwood City CA 94063) has issued a Fall Winter 1991 16-page catalog of the products, programs and accessories they took over from Triton. They have a toll-free number 1-800-336-9966 Monday-Friday 9AM-4PM Pacific Time. The catalog is free.

Beery Miller of 9640 News (P.O. Box 752465, Memphis TN 38175) has made arrangements with Mike Dodd to distribute Mike's great programs. These had been placed with JP Software for distribution, but JP Software has failed to ship anything or answer any inquiries for a year and a half. The new reduced prices are \$15 for HyperCopy, \$25 for PC-Transfer and Utils, \$7.50 for PC-Transfer Utilities, \$10 for Identifile. Beery is not responsible for any unfilled orders previously sent to JP Software.

Australia's first TI-FAIRE of the 1990's will be held in Sydney on 14 November 1992. It is sponsored by the TISHUG user group of Sydney, one of the world's largest and most active groups and the publisher of the best of all newsletters.

The Nittany Users of Texas Instruments in Pennsylvania has disbanded. The Brevard Users Group in Florida no longer supports the TI-99/4A.

Jerry Coffey did not respond to my request for information, but according to the Southern Nevada newsletter he is now supplying the JPH Software programs GEN-TRI at \$49.95, TRIAD at \$25 and Chainlink Solitaire at \$12, PC Transfer Vers. 1.1 and Utilities at \$25 or the Utilities alone \$7.50, Hypercopy at 7.50 and Identifile at 10.

According to a message on DELPHI in August, Don O'Neil was still working the bugs out of his Accelerator (it was not ready for the Chicago Faire in

November). He and Gary Bowser have decided to include SOB (Son of a Board) in a new form, called Super SOB, on board the Accelerator. O'Neil has dropped his plans for a P-Box interface card and will be developing a new P-box with four 16-bit slots for new cards and at least six 8-bit slots for existing TI cards. He says it will be a full size AT case with a 200W power supply; you will have to jumper or remove the regulators on existing 4A cards to keep the heat down. The box will house the 4A console, Accelerator and TIM (if you have them), and floppy and hard drives. There will be a built-in IBM keyboard interface. An adapter card will be adapted for the standard console to have access to the 16-bit bus slots. The cartridge port will be mounted in a drive bay for easy access from the front.

Don also said he had nearly completed a 4MB memory card (4A MEMEX), which will apparently be 256K in the basic version and upgradable in 1 MB increments to 4 MB. It will have 5 modes of operation, RAMBO and four others. He said his next project would be a 16-bit version of the 4A MEMEX.

According to the report on the Chicago Faire by Gary Cox in the Mid-South newsletter, Bud Mills was offering a TIM converter which takes an RGB analog signal and converts it to a composite signal so that a composite monitor could be used with the TIM 80-column device. He was also selling for \$35 the Miller Graphics EPROM for the CorComp disk controller. Bud also announced that when someone sells a ram disk in order to purchase a bigger ram disk from him, he will warrant the old ram disk to the new owner for 90 days.

Gary Bowser was selling POP-cart, a user-selected set of TI-99/A modules or programs all burned into one standard cartridge and accessed through a menu. Five to seven such programs will fit into the basic POP-cart, which sells for \$95 plus \$4.50 PP&M, but units up to 2 megabytes are available. It uses the "REVIEW MODULE LIBRARY" built into the console, but for an additional \$25 a scrolling pop-up memory is available

with additional features such as loading of Assembly, Object, Forth and C99 programs via the menu.

Beery Miller offered GEME for the Geneve, a software package allowing multiple windows and the ability to scroll around them; the price was \$5. Also available for 28 was SHELL, a utility which allows one to interface from MDOS to any MDOS or GPL program, providing the ability to build a menu and run anything at will.

William A. Shores (Suite 107, 5679 S. Transit Road, Lockport NY 14094) has a \$25 kit called E/B Module Expander which enables you to take the GROMs from Extended Basic and from any other module which has 16-pin GROMs and place them all in one slightly larger module, all accessible by a 6-position switch.

TI Fest West 1992, hosted this year by the Valley of the Sun TI Computer UG, is scheduled for Feb. 15 and Feb. 16 at the Days Inn - Phoenix/Camelback, in Phoenix, Arizona.

Jerry Rash of Catspaw Software is perfecting his Quickstart Operating Environment for the Geneve, which may be available at Fest West. Also, Jerry and Bill Nelson plan to be offering IBM "AT" chassis boxes reconfigured for the Geneve.

Mike Maksimik of Crystal Software (635 Mackinaw, Calumet City IL) has released MIDI Album 99, for use with MIDI Master 99. It allows you to catalog any disk files of MIDI music and then schedule up to 106 selections to be played randomly or in alphabetic sequence. Since MIDI Master 99 has exhausted available memory, this software requires an additional 4K in a Mini-Memory or other module.

Tony Lewis (409 Drolmond Drive, Raleigh NC 27615-6230) has announced that his FPM (Floating Point Math) Card is under development and should be available in 1992. It uses a Motorola 68881 floating point math coprocessor to greatly speed up math operations while increasing accuracy and tripling the number of math operations available.

END

JUST FOR US BEGINNERS
IN TI-WRITER
by Jim Leshner
from Dallas 99 Interface

Suppose you have a page of text with just about 3 or 4 lines left over. Oh, how you would like to get those extra lines on just one page. Well, here is one way we can do it. Looking at the numbers on the left side of your screen, when you are in TI WRITER edit mode, we have 70 lines and we want to put them all on one page which normally only accepts 66 lines. With the cursor at the upper lefthand corner of the page, press FCTN B to give yourself an extra line to work with. Then press CTRL U FCTN R FCTN D and look down the list for the number 70 and see what it matches up with. It should be 22. Now we don't want the lines to go to the very bottom of the page so let's use 21. Now if we look on page 146 of our TIW manual, at the list on the next page, we find that 21 is a shift U, so at this point we press SHIFT U. Then press CTRL U again to return to normal key function. And at the space between the strange looking characters when you pressed FCTN R and the other strange looking character when you pressed SHIFT U, place the number 3. The first character is an escape character telling the printer "Pay attention here, I'm going to give you a

command." The 3 is the code for the printer to change the line spacing and the last character is the character the printer recognizes as 21. And so there you are.

Suppose you wanted to go the other way, you want to fill the page with only 50 lines. Look down the list and find 50, WHOA! What's this, the number 2? That's right, immediately after typing in the escape character (the tiny b), press CTRL U to get back to normal key operation and type 32. The minimum number of lines seems to be about 13, the maximum is about 105. If an attempt is made to go beyond this limit, the top of one line starts merging into the bottom of the line above it. Now for the 1,2,3 system. For 70 lines per page. After you have positioned the cursor in the upper left corner and inserted a space with FCTN B:

1. Press CTRL U
2. Press FCTN D
3. Look up the number 70
4. Note that it matches number 21
5. Note that 21 matches SHIFT U, Press SHIFT U
6. Press CTRL U
7. Type a 3 between the tiny b and the tiny 5
8. Print the page.

DEBBIE BLUCHER'S
FAMOUS PUMPKIN PIE

This article is in response to an overwhelming public demand.

The "secret" is to use FRESH pumpkin.

Clean pumpkin, cut off rind, and cut into cubes - boil until soft - then mash.

Note: You will get more than one pie from an average pumpkin but cooked pumpkin may be frozen in Tupperware containers for future use. Frozen pumpkin would be thawed, then liquid drained off before using.

Ingredients;

1-1/2 cups Pumpkin	1/4 tsp Nutmeg
3/4 cup Sugar	1/4 tsp Ground Cloves
1/2 tsp Salt	3 Eggs
1 tsp Cinnamon	1/2 cup Milk
1/2 tsp Ginger	

Mix ingredients together, then add to unbaked pastry shell.

Bake in 400 deg oven for 50 minutes.



NEXT MEETING TUESDAY, APRIL 14, 1992..NEW ADDRESS SEE BACK PAGE!!!

MUNCH OFFICERS AND NUMBERS (all in 508 area unless noted)

President	W.C. Wyman	865/9683		
Vice President	Bruce Willard	852/3250	MUNCH DUES	
Secretary	Jim Cox			
Treasurer	Jim Cox	869-2704	NEW MEMBERSHIP	\$25.00
Printing Editor	Jim Cox		RENEWAL MEMBERSHIP	\$15.00
Div.Prog. Chair	Dan Rogers	248-5502	NEWSLETTER ONLY	
Library	OPEN		SUBSCRIPTION	\$12.50
Disk Librarian	Lou Holmes	617 965/3584		
ape Librarian	Walter Nowak	413 436/7675		
EW-AGE/99	Jack Sughrue	476/7630		

MARCH MEETING. There were 13 members present and we discussed what we would do for the Fair. Tony Falco won the raffle. We started collecting for a Group Purchase of the Secret Guide to Computers.

APRIL MEETING. This month's demo will be something from Comprodine and that program will then be part of the raffle. Lou will put the resistor in your computer if you want him to. It does work! Remember you have to take apart your computer to get at the mother board.

RAFFLE. Every month we have a raffle to help defer the rental cost of our meeting hall. A typical raffle will have game and utility programs T-Shirts, clocks, bumper stickers, blank discs and all sorts of odds and ends for the T.I.

LIBRARY NOTICE. Please return any items borrowed from our library. If you can't come to a meeting or give these items to someone who will be at the meeting.

PRINTS. Reprints are permitted as long as credit is given to M.U.N.C.H.

ARTICLES. I am always looking for articles for this newsletter, anything which interests you will probably interest other members of the TI community, so please share your ideas and opinions with all of us.

DISK LIBRARY. The disk library will be at the meetings from now on. We have copies of all disks in the library and they are available to members for just .50 each for single discs, \$2.00 floppies, \$3.00 double discs and \$4.00 double floppy.

DISK SALE. The group has a TI Count Business Software package available for sale. If interested contact Jim Cox at the above number or the club address. Bruce Willard has 3 computers, a P-Box with 3 drives and lots of modules for sale, call him for prices.

DISK OF THE MONTH. This month's disk is #103, a games disk with Zargon Warrior, Moonist and Combat.

VIDEO. MUNCH VIDEO is ready, members can purchase it for \$5.00, plus \$3.00 postage for mail orders.

FAIR. We did fair at the Fair. The group made approximately \$115. We presented Comprodine and Texaments. There were some excellent buys and it good to see some old and good friends from the TI universe.

SECRET GUIDE. We will be taking orders for The Secret Guide to Computers, the 16th edition is out this month. The tentative price is \$9.00.

