TI-D-BITS

PHILADELPHIA AREA USERS GROUP NEWSLETTER
COVERING THE TI99/4A
AND MYARC 9640 COMPUTERS

AUGUST 1991

Volume 11 Number 7

DON'T GO IT ALONE
LET THE REST OF US
HELP YOU THROUGH
THE DIFFICULT TIMES

The Philadelphia Area TI-99/4A Users' Group meets twice a month. On the first Saturday of each month, at The Church of the Atonement, 6200 Green St. Germantown (Corner of Green St and Walnut Lane) at 10 A.M. And on the third Saturday of each month, we meet at Drexel University, in Matheson Hall at 34th and Marker St. Phila. Pa Check the room chart posted at Matheson Hall for the current Room No. Membership to The Philadelphia Area TI-99/4A Users' Group is available to all. We invite anyone that is interested in the TI-99/4A to visit us. Stop in and see what is available to you for your TI and how membership can benefit you!

Current executive board consists of:

PRESIDENT
Barry Traver..... 215-483-1379
VICE PRESIDENT
Allen Silversteen. 215-885-7910
SECRETARY
Open
TREASURE
Don Arsenault..... 215-368-0446

Committees consists of:

TI-D-BITS
Ralph Field..... 215-362-2534
Tim Coyne..... 215-947-5881

LIBRARY
Ted Chemey..... 215-752-1458
Rich Mascara..... 215-441-4060
MEMBERSHIP
Don Arsenault..... 215-368-0446
ASSISTANT TREASURER OPEN

EDUCATION
Barry Traver
Allan Silversteen
Ted Chemey
EQUIPTMENT
Allen Silversteen
PROGRAM
Dr. Eric Bray

REMEMBER to be considerate when calling any of the above people. Limit your calls to the early evening hours. (6pm to 9pm)

The opinions expressed herein are those of the individual authors are not necessarily those of the Philadelphia Area TI-99/4A Users' Group or its officers. Nor is the Philadelphia Area TI-99/4A Users' Group or any of its officers responsible for any damage, inconvenience, or loss which may result as a consequence of the use of any written material herein.

TI-d-Bits is published monthly by the Philadelphia Area TI-99/4A Users' Group, c/o Ralph E. Field. 603 N. Broad St., Lansdale, PA 19446. All material herein may be reprinted freely by other non-profit User Groups, (unless otherwise stated), as long as proper credit is given to both source and author. Contributions are encouraged, but no payment is made. Editorial, advertising, and classified, copy MUST be in by the LAST day of the previous month. You can either mail your copy to: TI-d-Bits, c/o The Philadelphia Area TI-99/4A Users' Group, c/o Ralph E. Field, 603 N. Broad St., Lansdale, Pa. 19446 or send it via modem by contacting Ralph E. Field at (215)-362-2534. If your piece contains any, diagrams, charts, or code, send a paper copy AT FINAL PUBLICATION SIZE.

The editor of TI-d-Bits or the executive board of The Philadelphia area TI-99/4a Users' Group reserve the right to reject any material submitted for publication for any reasons.

The Philadelphia Area TI-99/4A Users' Group's program library is available to all active members at NO CHARGE for copying to your disk. A charge of $2.00 per disk is made for club supplied disks for members. Non members may obtain copies of the library for a fee of $5.00 per disk. A catalog of the library's contents is given to all new members upon request and updates will appear in this publication from time to time. To obtain material from the library, contact the librarian for the best procedure to obtain your requests.

* NEW-AGE/99 #14 *

By JACK SUGHRUE
Box 59, East Douglas. Ma 01516

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 LOVE 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.

****

SWAP or SALE

ITEMS THAT ARE WANTED

Norm Sellers is looking for a:
MDOS LINKER
Call him at: 323-0475

Tim Coyne is looking for a:
GRAMKRACKER or GRAMULATOR
Call him at: 947-5881

Henry Beilstein is looking for a:
32K MEMORY EXPANSION CARD
Call Allan Silversteen at: 885-7910
or see Henry at the Meeting.

ITEMS FOR SALE

Bill Bubeck has the following items:
12" AMBER MONITOR
TI DISK CONTROLLER CARD
32K MEMORY EXPANSION CARD
Call him at: 272-6239

Robert Sheairs Jr. Fm. Depford. NJ. has the following For Sale:
2 EXPANSION BOXES With CONTROLLER CARD in them and the TI Disk Drive. One of the PE Boxes and it contents has never been used, right out of the box.
1 EXTERNAL DISK DRIVE
1 GRAM CRACKER (Used only to compile) cartrages to disks).
2 KEYBOARDS (one Black, one Tan)
1 MEMORY EXPANSION CARD
2 SYNTHISIZERS
1 RS232 CARD With CABLE to PRINTER
MANY GAME and CONTROL CARTRAGES

(Some with disks).

Robert Sheairs Jr. can be reached at: 1-609-227-4161
Any Reasonable offer will be considered.

****

A GROUP COLLECTION FOR FUNNELWEB

At the July 6th meeting Tim Coyne took a collection to send to The McGoverns for FUNNELWEB. He collected $53.00 at that meeting. Anyone else that would like to add to this collection contact: Tim Coyne, or Allen Silverstine or myself, Ralph Field, or give your money to Tim at the July 20th meeting or August 17th meeting which is the deadline.

****

TEXAS INSTRUMENTS STILL CARES

Fm Pittsburgh User Group Newsletter

Texas Instruments still provides a great service to the TI-99/4A user by providing repair service for our computers. I called Texas Instruments at 1-800-TI-CARES (1-800-842-2737) and asked about their repair service. I was told that they still repair all the equiptment manufactured by them for fixed prices and if it could not be fixed they would replace it with on hand stock. The following is the prices that I received today March 12, 1991 to repair the equiptment:

EQUIPTMENT	PRICE	S&H
TI-99/4A CONSOLE	$45.00	$6.00
Peripheral Expansion Box	$70.00	$6.00
RS232 Card	$44.00	$6.00
32K Card	$44.00	$6.00
Disk Controller Cd.	$44.00	$6.00
Flex Cable	$25.95	$5.00
SSSD Disk Drive	$80.00	$6.00
P-Code Card	$33.00	$6.00
Speech Synthesizer	$30.00	$5.00
TV Modulator	$12.95	$4.00
Joy Stick	$ 9.75	$3.00
Power Transformer	$10.00	$3.00

They also require state sales tax for whichever state you are ordering from. They accept Master Card, Visa, and Personal checks.

You can send your broken equiptment with payment to:

Texas Instruments
2305 University Ave.
Lubbock, TX 79408
Attn: Repair Center

They also repair CC-40 equiptment at the following rates:

EQUIPTMENT	PRICE	S&H
CC-40	$60.00	$6.00
Printer/Plotter	$55.00	$6.00
Printer 80	$55.00	$6.00
RS232	$33.00	$6.00
Modem	$33.00	$6.00

****

PROGRAMMING MUSIC THE EASY WAY

PART 2

By Jim Peterson

In Part 1 I showed you how to set up a musical scale to create notes, and how to merge in various little routines to create a variety of musical effects, but I didn't tell you how to figure out what numbers to put in between those GOSUBs. So, here is the little program that makes it all easy.

```
100 CALL CHAR(127,"000F080F0
868F870000F08080868F87000080
8080868F8700008080808689870"
):: CALL CHAR(131,"000000000
0609070")
110 CALL CHAR(132,"0000120C4
830204000002210810200000201
0201030200000003CFF"):: CALL
CHAR(136,"000000FF3C")
120 CALL CLEAR :: S$="GFEDCB
A" :: CALL CHAR(45,"00000000
FF"):: A$=RPT$(S$,3):: FOR R
=2 TO 22 STEP 2 :: IF R=12 T
HEN 130 :: DISPLAY AT(R,1):R
PT$("-",28)
130 NEXT R :: CALL CHAR(98,"
0020202834242830")
```

```
140 FOR R=1 TO 21 :: DISPLAY
AT(R,1):SEG$(A$,R,1);:: NEX
T R
150 DATA 127,127,128,128,129
,129,130,130,131,131
160 DATA 1/16,1/8,1/4,1/2,1/
1
170 FOR R=1 TO 20 STEP 2 ::
READ N :: DISPLAY AT(R,15):C
HR$(N);:: NEXT R :: FOR R=3
TO 19 STEP 4 :: DISPLAY AT(R
,16):".";:: NEXT R
180 C=132 :: FOR R=1 TO 17 S
TEP 4 :: DISPLAY AT(R,17):CH
R$(C);:: C=C+1 :: NEXT R
190 FOR R=1 TO 17 STEP 4 ::
READ M$ :: DISPLAY AT(R,20):
M$;:: NEXT R
200 DATA 35,33,32,30,28,27,2
5,23,21,20,18,16,15,13.11.9.
8,6,4,3,1
210 FOR R=1 TO 21 :: READ N
:: N$=N$&CHR$(N):: DISPLAY A
T(R,6):STR$(N);:: NEXT R
220 G$="b" :: Z=-1 :: GOSUB
320 :: IF F=0 THEN 230 ELSE
GOSUB 330 :: GOTO 240
230 G$="#" :: Z=1 :: GOSUB 3
20 :: IF F<>0 THEN GOSUB 330
240 DISPLAY AT(24,1):"Shorte
st note? 1/" :: ACCEPT AT(24
,18)VALIDATE("12468")SIZE(2)
BEEP:L :: T$="1/"&STR$(L)::
RESTORE 160 :: FOR J=1 TO 5
:: READ L$ :: IF L$=T$ THEN
260
250 NEXT J :: GOTO 240
260 DISPLAY AT(24,1):"Is it
dotted? Y/N" :: ACCEPT AT(24
,19)VALIDATE("YN")SIZE(1):D$
:: D=1-(D$="Y")
270 T=-3+J*4
280 FOR R=T TO 19 STEP 4 ::
DISPLAY AT(R,11):STR$(D);::
DISPLAY AT(R+2,11):STR$(D*1.
5);:: D=D*2 :: NEXT R
290 GOTO 360
300 FOR R=1 TO 20 STEP 2 ::
READ N :: DISPLAY AT(R,15):C
HR$(N);:: NEXT N
310 GOTO 310
320 DISPLAY AT(24,1):"How ma
ny "&G$&" on upper scale?" .
: ACCEPT AT(24,28)VALIDATE("
01234567")SIZE(1)BEEP:F :: R
ETURN
330 Y$="" :: FOR J=1 TO F ::
DISPLAY AT(24,1):"On which
letter?"
340 ACCEPT AT(24,18)VALIDATE
(S$)SIZE(1)BEEP:L$ :: IF POS
(Y$,L$,1)<>0 THEN 340 ELSE Y
$=Y$&L$
350 S=1 :: FOR K=1 TO 3 :: P
=POS(A$,L$,S):: DISPLAY AT(P
,2):G$;:: DISPLAY AT(P,6):ST
R$(ASC(SEG$(N$,P,1))+Z);:: S
=P+1 :: NEXT K :: NEXT J ::
RETURN
360 OPEN #1:"PIO" :: FOR R=1
TO 22 :: FOR C=3 TO 30 :: C
ALL GCHAR(R,C,G):: CALL HCHA
R(R,C,30):: R$=R$&CHR$(G)::
NEXT C :: PRINT #1:R$ :: R$=
"" :: NEXT R :: STOP
```

Get yourself a piece of sheet music and compare it to the screen display from that program. You will see that music is written on two sets of 5 lines. The upper set is marked at the left end with something like a fancy script capital S; it is used to write the higher notes, including the melody, which a pianist plays with the right hand. The lower set, marked with a sort of a backward C, contains the low notes played with the left hand. Your sheet music probably has a wide space between the sets, to make room for the lyrics, but there are really only three notes between them.

The screen display shows letters at the left, which are not on the sheet music. Those are the names of the notes, which we will have to refer to a couple of times to get started; observe that the notes are named A through G and then repeated.

The numbers along the left side are the numbers you will key in to play those notes. However, the screen display is set up in the key of C, which is played entirely on the piano white keys. The sheet music you want to program from may be in a different key, so -

The computer is asking you how many there are of something that looks like a squashed lower case b - I guess that's why they call it a flat? It means that the note will be played a bit lower, on the black key just left of the white key - and we will program it one number lower. So, look next to that capital S and see how many flats there are. If none, type 0. Otherwise, the computer will ask which letters they are next to. Type them in, one at a time, and presto - the

computer will put them on the staff and adjust the numbers accordingly.

If there were no flats, the computer will want to know if there are any sharps - those are what you get by typing a shift 3 on the keyboard, and they mean that the note is played on the black key above the white key, and is programmed one number higher.

Now, the computer needs some information in order to help you set up the length of your notes - how long they are sounded. The various notes are depicted at the right. A 1/16 note is a little black egg with a stem (it may go up or down, makes no difference) and two flags on the stem. A 1/8 has only one flag and a 1/4 note has none. A 1/2 note is a hollow egg with a stem and a whole note has no stem.

Those little doodads to the right of the notes are rests, used to indicate a silent pause of the same length as that note - more on that later.

Look through your sheet music and find the shortest note. Tell the computer. It will want to know if any of those shortest notes are dotted - have a little dot to their right, as the screen display shows. A dotted note is played half again as long as normal. Presto again, the computer will show you the duration number to key in for each note. Then, if you have a printer attached, it will print out an XBasic screen dump of that screen - you will have to squash your own b's and sketch in the notes and rests.

If your software library contains an assembly screen dump, delete that last program line and put in a CALL INIT, CALL LOAD and CALL LINK to get a better printout - or ask me for it. If you don't have a printer, why not copy those numbers right onto the corresponding lines and spaces on your sheet music, and number some of the notes. Now we're ready to make music! Let's keep it simple at first, just a single note melody - and I hope you picked a simple piece of music. Clear the TI's brain with NEW, then merge in that line 100 scale from part 1 by MERGE DSK1 SCALE . In the same way, merge in one of those line 1000 CALL SOUND routines. Put in a temporary stopper line 999 STOP, and a line 110 D=200 to set the duration.

The melody is almost always on the upper set of 5 lines. If a note has 2 or 3 eggs on its stem, as they usually do, the upper one is the melody note - we will get into harmony later.

Start with line 110. Check your chart to see what number denotes the length of the first note - maybe 2, if so key in T=2 :: Then check to see what number applies to the position of the upper egg of that note. Maybe 22, so key in A=22 :: GOSUB 1000 Enter RUN, and if you've done everything correctly, you will hear the note. You might decide already that you want to change that 200 in line 110.

Now for the second note. If it is of the same length as the first, you don't have to type anything - that's what makes this shorthand method so quick and easy. If the note position is also the same, you don't key that in either - just another GOSUB 1000.

If you have EZ-KEYS or another "hot keys" program, you can program a control key to put in the GOSUB 1000 with just one keypress - wish I had thought of that when I was programming music by the diskfull!

So keep plugging along, keying in durations and notes. After every half dozen notes or so, type RUN to see if everything sounds OK so far - it's easier to catch errors before they are too far back in the music.

You can get up to 5 screen lines on one line number, but you might better stick to 3 lines. You will note that the sets of notes are divided by vertical bars. You might program the notes between bars on a separate line, then add a ! followed by the words of the song that go with those notes - I find that a very good way to track down sour notes.

Regarding those bars - it might help you sometime to know this. At the beginning of the music, right after the big script S and the flats and sharps, you will see something like a 3 over a 4, or a 4 over a 4, or whatever - but often a symbol such as a barred C is used instead. A 3 over a 4, for instance, means that the notes between two of those bars will add up to 3/4 - might be three quarter notes, or two eighth notes and two quarter notes, or whatever, but they will add up to 3/4. Sometimes the very first notes will add up short,

but in that case the very last ones will make up the difference.

The notes between those two bars make up a bar of music, and the emphasis is on the first note - for instance, that 3/4 is the 1-2-3, 1-2-3 beat of waltz time.

While you are keying in that music, you might come to one of those rests. You can just key in its T= value and then A=0 for a silent note. However, computer notes stop so abruptly that somehow a rest just doesn't sound right, so I often just use the previous note instead.

You may come across one of those flat or sharp symbols next to a note in the music. Give the note a number 1 lower if a flat, one higher if a sharp, and the same for any subsequent occurrences of that note, until you find next to it a symbol that looks like the sharp sign with half its legs knocked off; that means to go back to normal. You might also come across that symbol to tell you to play a normally flat or sharp note as if it was not.

I think that covers all that you absolutely have to know for now, and I have horrified all serious students of music just about enough. There are all kinds of other squiggles on the sheet music but usually they are not essential in programming music.

There is one other time-saving shortcut that I should tell you about right now. Most music consists at least partly of musical phrases, of a series of notes, which are repeated two or more times within a melody. So, the first thing you should do before you start programming a song is to search through the music for such phrases.

If you find one, of more than a few notes, that is repeated elsewhere - and make sure it is repeated exactly the same - mark it off each place it occurs and label it 500. If you find a second repeating phrase, label it 600, and so on.

Then, when you start programming, start with line 500, key in that series of notes first, and end it with RETURN. If you have another phrase, put it in lines starting with 600, again ending with RETURN.

Now, start programming from the beginning of the song in line 120, but when you come to one of those phrases, just put in GOSUB 500 - the program will jump to that line number, play those notes, and come right back to where it was.

In Part 3, we will get into programming in 3-part harmony, bass notes, auto-chording, and all kinds of things.

****

TIPS FROM THE TIGERCUB

No. 61

Tigercub Software
156 Collingwood Ave.
Columbus, OH 43213

1 Aug. 1990

My stock of Tigercub Software catalogs is depleted and it would not pay me to reprint it. Therefore I have released all copyrighted Tigercub programs, except the Nuts & Bolts Disks, for free distribution providing that no price or copying fee is charged. All of my Tigercub programs have been added to my TI-PD library and are cataloged, by category, in Supplement #8.

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

My TI-PD library now consists of 419 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 #3 listing all titles and authors, is available for $1 which is deductible from the first purchase.

This little program won't do any of the fancy things that the sophisticated poster programs do, but it may do a few things they don't. First key in this fontmaker.

```
100 DISPLAY AT(3,1)ERASE ALL
:"Filename? DSK" :: ACCEPT A
T(3,14)BEEP:F$
110 OPEN #1:"DSK"&F$,OUTPUT
120 FOR J=32 TO 126 :: CALL
CHARPAT(J,C$):: CALL HEX_BIN
(C$,B$):: FOR K=1 TO 64
130 IF SEG$(B$,K,1)="0" THEN
 CH$=CH$&CHR$(32)ELSE CH$=CH
$&CHR$(42)
140 NEXT K :: PRINT #1:CH$ :
: CH$="" :: NEXT J :: CLOSE
#1 :: STOP
150 SUB HEX_BIN(H$,B$):: HX$
="0123456789ABCDEF" :: BN$="
0000X0001X0010X0011X0100X010
1X0110X0111X1000X1001X1010X1
011X1100X1101X1110X1111"
160 FOR J=LEN(H$)TO 1 STEP -
1 :: X$=SEG$(H$,J,1)
170 X=POS(HX$,X$,1)-1 :: T$=
SEG$(BN$,X*5+1,4)&T$ :: NEXT
 J :: B$=T$ :: T$="" :: SUBE
ND
```

This program reads the hex code of each character from ASCII 32 to 126, converts it to a 64-byte binary string of 0's and 1's, then changes each 0 to the blank ASCII 32 and each 1 to a printable character, and saves the result to a file of patterns to print characters 8 spaces wide by 8 spaces high.

The 42 in line 130 creates characters composed of asterisks. Change it to J and the characters will be composed of themselves - the A will be made up of A's, etc. Or, check your printer manual and substitute one of the special graphic symbols in ASCII 224 - 255.

The character patterns are designed from the hex codes in memory, so you can first merge in a reidentified char set such as a CHARA1 file or one of the fonts in my Nuts & Bolts disks or in my 127 Screen Fonts disk.

Create as many fonts as you want, then key in this poster maker program.

```
100 OPEN #1:"PIO",VARIABLE 1
36 :: PRINT #1:CHR$(27)&"@";
110 DIM CH$(94):: Q,H=1 :: W
,SP=8 :: DB$,SU$="N" :: D$,E
$="Y" :: GOTO 150
120 F$,CH$(),J,Q$,M$,FLAG,OU
T$,A$,S,SS,PC$,H,T$,L,A,X,K,
T,X$(),SK,ST,DD
130 CALL KEY :: CALL SOUND
140 !@P-
150 DISPLAY AT(3,4)ERASE ALL
:"QUICK & DIRTY POSTERS" ::
DISPLAY AT(5,7):"by Jim Pete
rson"
160 DISPLAY AT(12,1):"Font f
ile? DSK" :: ACCEPT AT(12,15
)BEEP:F$ :: ON ERROR 170 ::
GOTO 180
170 GOSUB 680 :: RETURN 160
180 OPEN #2:"DSK"&F$,INPUT :
: FOR J=1 TO 94 :: LINPUT #2
:CH$(J):: NEXT J :: CLOSE #2
 :: GOTO 190
190 DISPLAY AT(3,1)ERASE ALL
:"Load download font? Y/N N"
 :: ACCEPT AT(3,25)SIZE(-1)V
ALIDATE("YN")BEEP:Q$ :: IF Q
$="N" THEN 230
200 ON ERROR 210 :: DISPLAY
AT(3,1)ERASE ALL:"Filename?
DSK" :: ACCEPT AT(3,14):F$ :
: OPEN #2:"DSK"&F$,INPUT ::
GOTO 220
210 GOSUB 680 :: RETURN 190
220 LINPUT #2:M$ :: PRINT #1
:M$ :: IF EOF(2)<>1 THEN 220
 ELSE CLOSE #2
230 IF FLAG=1 THEN 260 :: FL
AG=1
240 ON ERROR 250 :: DISPLAY
AT(3,1)ERASE ALL:"Output fil
e? DSK" :: ACCEPT AT(3,17):O
UT$ :: GOSUB 670 :: GOTO 260
250 GOSUB 680 :: RETURN 240
260 DISPLAY AT(3,1)ERASE ALL
:"(1) PICA":"(2) ELITE":"(3)
 CONDENSED":STR$(Q):: ACCEPT
 AT(6,1)SIZE(-1)VALIDATE("12
3"):Q
270 IF Q=1 THEN S=80 :: A$=C
HR$(18):: GOSUB 640 :: GOTO
300
280 IF Q=2 THEN S=96 :: A$=C
HR$(27)&"B"&CHR$(2):: GOSUB
640 :: GOTO 300
290 S=136 :: A$=CHR$(15):: G
OSUB 640
```

```
300 DISPLAY AT(3,1):"Char wi
dth 1, 6, 7 or 8? "&STR$(W):
: ACCEPT AT(3,26)SIZE(-1)VAL
IDATE("1678")BEEP:W :: SS=IN
T(S/W)
310 DISPLAY AT(3,1)ERASE ALL
:"double width? "&DB$
320 ACCEPT AT(3,15)SIZE(-1)V
ALIDATE("YN")BEEP:DB$
330 IF DB$="Y" THEN SS=INT(S
S/2):: S=S/2 :: A$=CHR$(27)&
"W"&CHR$(1):: GOSUB 640 ELSE
 A$=CHR$(27)&"W"&CHR$(0):: G
OSUB 640
340 DISPLAY AT(3,1)ERASE ALL
:"Double-strike? "&D$ :: ACC
EPT AT(3,16)SIZE(-1)VALIDATE
("YN")BEEP:D$
350 IF D$="Y" THEN A$=CHR$(2
7)&"G" :: GOSUB 640 ELSE A$=
CHR$(27)&"H" :: GOSUB 640
360 IF Q<>1 THEN E$="N" :: G
OTO 380 ELSE DISPLAY AT(3,1)
ERASE ALL:"Emphasize? "&E$ :
: ACCEPT AT(3,12)SIZE(-1)VAL
IDATE("YN")BEEP:E$
370 IF E$="Y" THEN A$=CHR$(2
7)&"E" :: GOSUB 640 ELSE A$=
CHR$(27)&"F" :: GOSUB 640
380 IF DB$="Y" OR E$="Y" THE
N 410
390 DISPLAY AT(3,1)ERASE ALL
:"Superscript? "&SU$ :: ACCE
PT AT(3,14)SIZE(-1)VALIDATE(
"YN")BEEP:SU$
400 IF SU$="Y" THEN A$=CHR$(
27)&"S"&CHR$(0):: GOSUB 640
ELSE A$=CHR$(27)&"T" :: GOSU
B 640
410 IF W=1 THEN 430 :: DISPL
AY AT(3,1)ERASE ALL:"Spacing
? "&STR$(SP)&"  /72"
420 ACCEPT AT(3,10)SIZE(-3)V
ALIDATE(DIGIT):SP :: IF SP>1
27 THEN 420 ELSE A$=CHR$(27)
&"A"&CHR$(SP):: GOSUB 640
430 PRINT #3:PC$;:: PC$="" :
: IF W=1 THEN 450
440 DISPLAY AT(3,1)ERASE ALL
:"Multiplied height? "&STR$(
H):: ACCEPT AT(3,20)SIZE(-1)
VALIDATE(DIGIT):H
450 DISPLAY AT(12,1)ERASE AL
L:"MAXIMUM LENGTH";SS;"LETTE
RS" :: LINPUT T$ :: L=LEN(T$
):: IF L>SS THEN 450
460 IF W>1 THEN 470 :: T$=RP
T$(" ",(SS-L)/2)&T$ :: PRINT
 #1:T$ :: GOTO 510
470 FOR J=1 TO LEN(T$):: A=A
SC(SEG$(T$,J,1))-31 :: FOR K
=1 TO 57 STEP 8 :: X=X+1 ::
X$(X)=X$(X)&SEG$(CH$(A),K,W)
:: NEXT K :: X=0 :: NEXT J
480 T=(S-L*W)/2
490 FOR J=1 TO 8 :: X$(J)=RP
T$(" ",T)&X$(J):: NEXT J
500 FOR J=1 TO 8 :: FOR K=1
TO H :: PRINT #1:X$(J):: NEX
T K :: NEXT J
510 DISPLAY AT(3,1)ERASE ALL
:"OK? Y/N Y" :: ACCEPT AT(3,
9)SIZE(-1)VALIDATE("YN")BEEP
:Q$ :: IF Q$="N" THEN 540
520 IF W=1 THEN PRINT #3:T$
:: SP=8 :: GOTO 600
530 FOR J=1 TO 8 :: FOR K=1
TO H :: PRINT #3:X$(J):: NEX
T K :: X$(J)="" :: NEXT J ::
 GOTO 600
540 FOR J=1 TO 8 :: X$(J)=""
 :: NEXT J
550 DISPLAY AT(3,1)ERASE ALL
:"(R)edo last line?":"(S)tar
t over?":"Choice? R/S R" ::
ACCEPT AT(5,13)SIZE(-1)VALID
ATE("RS")BEEP:Q$
560 IF Q$="S" THEN 590 :: GO
SUB 650
570 CLOSE #3 :: OPEN #3:"DSK
"&OUT$,INPUT
580 LINPUT #3:M$ :: PRINT #1
:M$ :: IF EOF(3)<>1 THEN 580
 ELSE CLOSE #3 :: GOSUB 670
:: GOTO 620
590 CLOSE #3:DELETE :: GOSUB
 670 :: GOTO 620
600 DISPLAY AT(3,1)ERASE ALL
:"Skip how many lines?  " ::
 ACCEPT AT(3,22)VALIDATE(DIG
IT)BEEP:SK :: FOR J=1 TO SK*
8/SP :: PRINT #1 :: PRINT #3
:" " :: NEXT J
610 DISPLAY AT(3,1)ERASE ALL
:"More? Y" :: ACCEPT AT(3,7)
SIZE(-1)VALIDATE("YN")BEEP:Q
$ :: IF Q$="N" THEN CLOSE #3
 :: STOP
620 DISPLAY AT(3,1)ERASE ALL
:"Load new font? N" :: ACCEP
T AT(3,16)SIZE(-1)VALIDATE("
YN")BEEP:Q$ :: IF Q$="Y" THE
N PRINT #1:CHR$(27)&"@" :: G
OTO 150
630 DISPLAY AT(3,1)ERASE ALL
:"Change codes? N" :: ACCEPT
 AT(3,15)SIZE(-1)VALIDATE("Y
N")BEEP:Q$ :: IF Q$="N" THEN
 450 ELSE 260
640 PRINT #1:A$;:: PC$=PC$&A
$ :: RETURN
650 DISPLAY AT(3,1)ERASE ALL
 BEEP:"Set printer to top of
 page":"and press Enter"
660 CALL KEY(0,K,ST):: IF ST
=0 THEN 660 ELSE RETURN
670 OPEN #3:"DSK"&OUT$,VARIA
BLE 136,APPEND :: RETURN
680 CALL SOUND(1000,110,0,-4
,0):: DISPLAY AT(23,1):"CANN
OT OPEN THAT FILE!" :: FOR D
D=1 TO 100 :: NEXT DD :: RET
URN
```

This program asks you for one of your font files. Next it allows you the option of downloading special characters to your printer, if you have such a file on disk Then you are asked for an output filename; this is necessary because the program rapidly uses up available string storage memory.

Then you are taken through the various printer options. You also have a character width choice of 1, 6, 7, 8. The normal screen font uses only 5 of the 8 pixels of width, so you can select a width of 6 or 7 to get more letters on a line. If your font file used a wider char set, be sure to allow for spacing. If you select 1. you will print a line in the normal printer font.

You are also asked for the line spacing, in 1/72" increments. Characters are normally 8 lines high, but you have the option to print each line multiple times for tall characters or, with closer line spacing, for denser print. Try 3/72" with superscript multiplied by 3, or 5/72" with a solid block graphic character with

triple printing.

Finally, you are shown the maximum number of characters according to your options, from 5 double-width 8-wide to 22 compressed 6-wide; you input a line and see it printed. It will be automatically centered.

If you are satisfied with it, the line is saved to disk, you specify the number of lines (8/72" spacing) to skip, and you are taken thru the options (including a new font) for the next line. The previous selections become the default options, so you can skip through quickly.

If the line is not satisfactory, you have the option of advancing the paper to the next page and reprinting the poster up to that point from the disk file and then continuing.

Now, here's the neat part. When you have finished your poster, you can print as many copies as you want. Just key in this program -

```
100 OPEN #1:"PIO".VARIABLE 1
36 :: PRINT #1:CHR$(27)&"@"
110 DISPLAY AT(12,1)ERASE AL
L:"Filename? DSK" :: ACCEPT
AT(12,14)BEEP:F$ :: OPEN #2:
"DSK"&F$,INPUT
120 DISPLAY AT(12,1)ERASE AL
L:"Load a download font? Y/N
 N" :: ACCEPT AT(12,27)SIZE(
-1)VALIDATE("YN"):Q$ :: IF Q
$="N" THEN 150
130 DISPLAY AT(12,1)ERASE AL
L:"Filename? DSK" :: ACCEPT
AT(12,14)BEEP:F$ :: OPEN #3:
"DSK"&F$,INPUT
140 LINPUT #3:M$ :: PRINT #1
:M$ :: IF EOF(3)<>1 THEN 140
 ELSE CLOSE #3
150 DISPLAY AT(12,1)ERASE AL
L:"How many copies?" :: ACCE
PT AT(12,18)VALIDATE(DIGIT):
N :: FOR J=1 TO N
160 DISPLAY AT(12,1)ERASE AL
L BEEP:"position paper, pres
s Enter"
170 CALL KEY(0,K,S):: IF S=0
 THEN 170 ELSE CALL CLEAR
180 LINPUT #2:M$ :: PRINT #1
:M$ :: IF EOF(2)<>1 THEN 180
```

You'll have to reposition the paper after each one.

The poster maker program was written for my Gemini 10X and I have not tried to offer options for other printers, since I don't have them available for testing. However, I think that these are the essential changes for the Epson standard.

```
260 DISPLAY AT(3,1)ERASE ALL
:"(1) PICA":"(2) ELITE":"(3)
 COMPRESSED PICA":"(4) COMPR
ESSED ELITE":STR$(Q):: ACCEP
T AT(7,1)SIZE(-1)VALIDATE("1
234"):Q
270 IF Q=1 THEN S=80 :: A$=C
HR$(18):: GOSUB 640 :: GOTO
300
280 IF Q=2 THEN S=96 :: A$=C
HR$(27)&CHR$(77):: GOSUB 640
 :: GOTO 300
290 IF Q=3 THEN S=132 :: A$=
CHR$(15):: GOSUB 640 ELSE S=
160 :: A$=CHR$(15):: GOSUB 6
40
670 OPEN #3:"DSK"&OUT$,VARIA
BLE 160,APPEND :: RETURN
```

And these changes should make compressed elite available on the Gemini SG10 in Star mode.

```
260 DISPLAY AT(3,1)ERASE ALL
:"(1) PICA":"(2) ELITE":"(3)
 COMPRESSED PICA":"(4) COMPR
ESSED ELITE":STR$(Q):: ACCEP
T AT(7,1)SIZE(-1)VALIDATE("1
234"):Q
270 IF Q=1 THEN S=80 :: A$=C
HR$(18):: GOSUB 640 :: GOTO
300
280 IF Q=2 THEN S=96 :: A$=C
HR$(27)&"B"&CHR$(2):: GOSUB
640 :: GOTO 300
290 IF Q=3 THEN S=136 :: A$=
CHR$(15):: GOSUB 640 ELSE S=
160 :: A$=CHR$(27)&"B"&CHR$(
4):: GOSUB 640
670 OPEN #3:"DSK"&OUT$,VARIA
BLE 160,APPEND :: RETURN
```

Other modifications should be fairly easy. The variable S contains the maximum number of characters per line. In lines 310-400, the option is turned on if it is selected, turned off if it is not.

Almost out of memory,

Jim Peterson

* * 1991 MEETING SCHEDULE * *

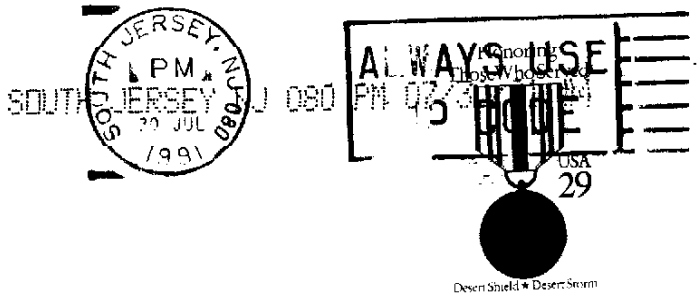
NEXT MEETING AUGUST 3rd AT BARRY TRAVERS, 835 GREEN VALLEY DR., ROXBOROUGH FOR A SPECIAL DEMONSTRATION OF TELECOMMUNICATIONS. 10 A.M. CALL 483-1379 FOR DIRECTIONS

DREXEL

August 10th *
SEPTEMBER 20th
OCTOBER 18th
NOVEMBER 16th

* HAM AND CHIPS FAIR

PHILADELPHIA AREA
TI-99/4A USER'S GROUP
c/o RALPH FIELD
603 N. BROAD ST.
LANSDALE PA 19446



FIRST CLASS MAIL

USA
DALLAS TI HOME COMPUTER GROUP

P.O Box 29863
DALLAS, TX
75229