Vol. 6 No. 2 FEBRUARY 1988

New Horizons

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Meeting; 12 Feb '88 Fri
Oregon #2 Fire Station
Time 7:00 Pm.

(419) 385-7484
TICOMM BBS
>>> 24-HRS <<<
SYSOPS
> TURNER - MILLS <

Don Turner
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Meeting; 13 Feb '88 Sat
Unity Church Secor Road
New time: 12:30 Pm.

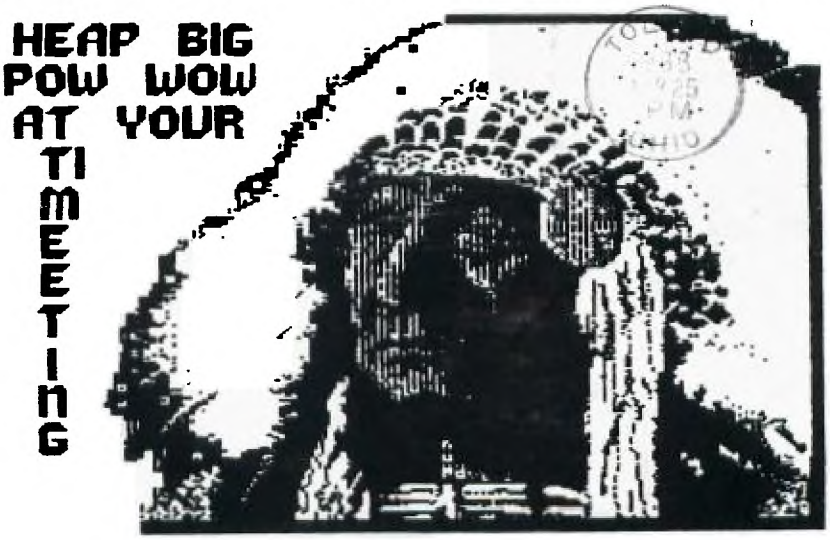
THE NEWSLETTER STAFF

Roger & Judy Feinauer Earl Hoffsis

LOCAL CONTRIBUTIONS BY;

Bill Tiep Jo Symington Bill Sager

You will be missed Kent



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THE PRESIDENTS PAGE

PRESDENT'S CORNER
OH-MI-TI
By Bob Peters

I would like to thank everyone who helped with the party for Kent Sheets at the meeting. I would especially like to say thank-you to Bud Mills for the meatballs and Ted Hopsinger for the beautiful cake. I would like to wish Kent all the happiness he deserves in his new job in Florida, he will be missed here in the club and as a friend.

This months demo will be DeBug by me and a demo of the software that will be for sale. of the software that will be for sale. I would like to impress upon the membership that if you know anyone with a 99/4A, to ask them attend a meeting and to join the club. The future meetings depend on those in the membership.

The meeting is on Feb. 12 at 7:00 P.M. At the #2 Oregon Fire Station. See you there.

February
1988

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15 Begin	16	17	18	19	20
21	22	23 Finish	24	25 Modem	26 Modem	27 Deadline
28	29					

NEW HORIZON NEWS
By Don Turner

Greetings to all the members of NEW HORIZONS. I would like to start February off with all of the members at this months meeting. Be sure to attend or you could miss something that would benifit you. We will be meeting at UNITY CHURCH on Executive Pkwy at 12:30 on February 9th.

I am sorry for the hodge podge meeting in January, I thought that I had made plans and scheduling for the meeting but instead really only had scheme and dreams.... Many many thanks to Bill Teip and Bud Mills who did the demos and bailed me out of a tight space. This months demo's will be by Roger Feinauer, he will be demonstrating FONT WRITER II and I will be doing a demonstration on SUPER EXTENDED BASIC.

Our Vice President, Jo Symington has implemented an idea of her own called MEMBER OF THE MONTH wich will feature an interview with the member selected. Her interview will be printed in our newsletter so you can find out what other members do with their TI and much much more.

Lamar Parker passed away a few weeks ago. Lamar was the 2nd President of New Horizons. Our deepest sympathy to his family.

Dave Szippl is putting together the TI-U/8 conference this year at Ohio State campus. It will be held on May 21st from 12:00 to 6:00 PM. There is No entry fees. For more information contact Dave through this address:
4 Poulston Pl Lima,OH 45805

Continued on next page

If you want to set up a table, Dave asks that you supply your own extension cord. The conference will also include a swap meet. There should be some pretty good bargians available. More information will be available by this months meeting

DEMO'S FOR FEB.

By Jo Symington

Roger Feinauer will Demonstrate Font Writer II. It allows you to use Ti Writer and Formatter off disk with Extended Basic. It includes the use of of Graphics From both Ti-Artist and CSGD pictures fonts and images. Included in the program is also an Editor Assembler OPT.5 Program loader. There is also a banner program that allows you to use CSGD Fonts And Graphics. This allows you to banner off your print on your printer.

Don Turner will demonstrate Super Extended Basic. This program Offers more sub routines,built in clock,disk directory and plot Graphics Program The disk directory will allow you to get directory without having to power down and then power back up using a disk manager. PS from ED. Super Extended Basic will also run on the Geneve 9640.

ED. Notes
by Roger Feinauer

For February first I would like to say Good-by to a good friend, and someone who has helped out both clubs. That is Kent Sheets, it seems that his job calls him to Florida. I hope him and his family all the best from myself and everyone from both clubs.

You wont believe were I am writting this from , well in the hospital. But as they say the show must go on and so must the newsletter. One other note Earl Hoffsis has join up with Judy and and myself as part of the newsletter staff. Earl will be mailling New Horizons news letters. As the printer we use is in Toledo this helps me out greatly. While I'm at it I should mention Justin Brett Who owns the print shop that prints our newsletter called J.B. Quick Print which is on Sylvania in Toledo. If anyone else is interested in helping with the news letter. Please leave me a note eather on the BBS, by letter, or just let me know of your intentions at the February metting.

One other thing Bud Mills now owns the New Horizons Ramdisk. Bud also tells me there's a program in the works that will allow persons with the Geneve 9640 to load the ramdisk system from the Geneve instead of having to reconnect there 99/4A back up to their Pe-Box. roger

Members of the Month
Russ and Linda Lee

Both Russ and Linda have been active in New Horizons for years. Russ is our secretary and Linda is in charge of our name tags and attendence.

Russ is an Industrial Engineer for Mccord Gasket, Linda teaches at Longfellow school, her speciality is in learning disabilities.

They each have their own Ti-Computers. Russ fools around with spread sheets, and Linda's favorite is the Word Processor.

Their favorite pastimes are boating and working on cars. They combine the latter hobby with the small business they run with their son Gary, boat and RV Storage. They have two other sons Randy and Russ.

OH-MI-TI & NEW HORIZONS

The New Adventure
by
Roger Feinauer

Let me start with mixed feelings with my computer. Most of what is based on the fact that most of the software I own runs in Ti-Mode or runs through the GPL interpreter.

One thing that would be nice if one could return back to dos without having to reboot the whole system. I know that a 512 k. IBM system you can go from basica to dos just by typing the word system. Don't think that I am regretting buying the Myarc computer because I'm not. If you think about it a hundred million dollar company like IBM took 3 to 4 years years to perfect their operating system, Myarc isn't doing too bad. I am just reflecting on some of the things I personally would like to see . I think one of the major directions that Myarc needs to go is get their GPL interpreter more in line with the 99/4A because they need this closeness . For no other reason than the large software base thats present for the 99/4A. It seems a shame that some of the best software, such as TI-Artist,Advance Diagnostics, and a lot of the terminal programs don't run or run with a lot of modfications. Another thing about their dos' when I went from dos 99b to 1.0 I found that Fontwriter II would lockup the program. This may not seem too bad for a disk only system, but for someone who is running a hard drive system or even a ramdisk system with the operating system booting from these. Means going to disk manager renaming system/sys then booting A dos that will run it from a drive. As you can see this could be A real bummer after a couple more revisions of dos. Which dos runs which software?

I got a copy of Geneve Advance Basic V.2.11 the other day and is great except for one or two things. This version doesn't support the call sound routes, and when you go from 80 column display to 40 or 28 column display you need to use the new command to get back to 80 columns and of course you loose the program thats in memory. Myarc needs to let us know the call load that gets us back to 80 column without loosing data or better yet release version 3.0 .

Myword 1.1 two new options that I see are an extra file called CONTROL[] and the dot command .C . By changing the CONTROL file to CONTROL and renaming CONTROL[] to CONTROL . You can now use [,and] characters are the new underline and overstricke characters. The (.C* *):Used to change any special function character. (I.E. .C # Will allow the # symbol to activate the overstricke in the formatter mode. The will no longer be required to be typed twice in the document you made the change unless, changed back with the dot command .C# @

A Disaster Recovery Parable, With Apologies to H.W. Longfellow

By the shores of Gothchur Data,
By the shining Big Computer,
At the doorway of his office,
Harry Waters stood and waited.
All the air was full of abends,
All the systems unresponsive.
And before him, through the hallway,
Westward, toward the boss's office,
Passed in hostile swarms the users,
Passed Payroll, the troublemakers,
Tramping, cursing through the hallways.
Level stood the door before him
From its entrance sprang a surgeon,
"With no system there's no billing."
Behind the doors the quiet computer,
Every Wait State light shown brightly,
All the vendors pointed fingers.
Sweat began to trickle freely,
From the brow of Harry Waters.
"Hot sites, backups, off-site storage,
I meant to do it all next Tuesday."
Through the door burst the operator,
Called by others the tape hanger,
"Our only backup tape got scratched."
Down the hallway came the boss,
Called by some the money giver.
With a look of resignation
stood and waited Harry Waters.

ROBERT D. HARGROVE

One thing Myword is lacking is a 132 column editor. This would be great for persons like myself that could use this type of editor for three column pages for their newsletters. And most important a formatter that could handle the three columns. While I'm at it how about a graphics loader that would allow the loading of TI-ARTIST instances right on the page with the text. With commands to move,copy,and to save.You can think of the possibilities. Then if Myarc could get with Christ Faherty to get the last bugs out of TI-Artist when use with the Geneve. And have him put A program image loader in the boot menu of TI-Artist. A person could go back and forth through the two programs and have the start of one heck of a desk top publishing program set. And finally give the people something they can use. Myart is a fine paint program but,what can you use it for? Except drawing pictures. I think I would pay A hundred dallars for a program like this. If Myword could do all the above.

TI-ARTIST works sorta on the 9640 but with one major problem when going from either artist program or the enhancement programs back to the boot menu the system locks up. This is running ver.2.1 as described in MICROpendium. With the fix's and mouse routine of Nov 87 page 39 .

For the 99/4A there is a DISK call Artist/Extras that have three input device DSR's for TI-ARTIST which allows the use of joyst,TRS-80 mouse from the Super Sketch module with Ti-Artist, and lastly Sketch, which lets you use Super Sketch with the Artist program.

As you can see this article is filled with hopes and wishes but through it I hope I expelled some useful information. roger

```
100 !###############################################################################
110 !
120 !   Program UPDATED BY WILLIAM M. LUCID, Original by MBP for use with
130 !   the MBP Analog to Digital board for the TI Expansion System.
140 !   This is a documentation program, suitability, use of this program
150 !   is at USER'S OWN RISK.
160 !   ONLINE information about MBP is available from Jerry McClusky TIBBS(tm)
170 !   bbs  300/1200 baud in Wichita, KS  316-681-3167.
180 !
190 !      Vcc (+5 vdc)
200 !       |-----------|
210 !       |           |
220 ! LM335 |           |
230 !      .-.          > 10,000 ohm variable resistor
240 !      | |          <
250 !      | | Adj    \ >   Output   10mV/ Kelvin
260 !      | |---------->.......................... A/D Channel 0 (Pin 6)
270 !      | |         ' >                        degree
280 !      | |          <
290 !      .-.          >
300 !       |           |
310 !       |           |
320 !       |...........|............................ A/D Ground (Pin 16)
330 !          Ground
340 !
350 ! Program for use with analog to digital board for P-Box.
360 ! Device used to sense temperature is described in National Semiconductors
370 ! Linear Databook. One low cost devices, resistor and powered by a five volt
380 ! supply. LM 335 are NATIONAL'S semiconductors. Calibration may be needed.
390 ! Each sensor is capable of being calibrated individually.
400 !
410 !###############################################################################
420 CALL CLEAR :: CALL SCREEN(8):: CALL INIT :: DEF SET=X+6*INT(X/10):: DEF TIME
=X-6*INT(X/16):: DEF F=.4578313254 :: DIM WK$(7),MO$(12)
430 FOR DW=1 TO 7 :: READ WK$(DW):: NEXT DW
440 FOR DM=1 TO 12 :: READ MO$(DM):: NEXT DM
450 DATA Sun,Mon,Tues,Wednes,Thurs,Fri,Satur
460 DATA January,February,March,April,May,June,July
470 DATA August,September,October,November,December
480 CALL PEEK(-31158,X1,X2,D,X4,X5):: X=0 :: D$=STR$(TIME):: X=X5 :: X5=TIME ::
L1$="Today is "&WK$(X1)&"day" :: L1=INT((32-LEN(L1$))/2):: L2$=MO$(X5)&" "&D$&",
 1985"
490 L2=INT((32-LEN(L2$))/2)
500 Z=TC*F :: CALL PEEK(-31164,X1,X2,X3,X4,X5):: X=X1 :: SEC$=STR$(TIME):: IF X1
<10 THEN SEC$="0"&SEC$
510 X=X3 :: MIN$=STR$(TIME):: IF X3<10 THEN MIN$="0"&MIN$
520 X=X5 :: HR=TIME :: M$=" am" :: IF HR>11 THEN M$=" pm"
530 IF HR=0 THEN HR=12
540 IF HR>12 THEN HR=HR-12
550 HR$=STR$(HR):: T1$=HR$&":"&MIN$&":"&SEC$&M$
560 DISPLAY AT(6,L1):L1$ :: DISPLAY AT(8,L2):L2$: : :TAB(10);"The Time Is": : :T
AB(11);T1$
570 CALL PEEK(-31088,TC):: CALL PEEK(-31072,TC)
580 DISPLAY AT(17,7):"Room Temperature" :: DISPLAY AT(19,10):USING "#####.# F.":Z
590 IF X1+X3+X5=213 THEN 480 ELSE 500
```

COLISTER

A TINYGRAM

by Ed Machonis

Another 28 column lister? Why not? This one happens to be my favorite and not just because I wrote it. I like it because it does the job the way I want it done, but then I wrote it that way.

At the time I wrote COLISTER, I had no access to any program that could do what I wanted done, which was to be able to list a program to disk or printer in 28 column format, the way it appears on the screen.

A 28 column listing makes it easier for the reader to type in the program with less chance for error. It also makes it simpler to check for errors should any creep in. One only has to check the end of each line as it appears on the screen against the printed listing to see if any characters were omitted or added. (Home Computer Magazine never did learn this lesson.)

But the biggest reason is that it not only saves the work of typing in a program in 28 column format, but it eliminates the chance for typing errors. By letting the computer do the work, nothing can go wrong. (If you believe this, I have a fantastic deal on a Bridge I'd like to tell you about!)

Why not just LIST to Printer or Disk? It's not that simple. The computer will list the program in 80 column format. Why not set the printer's right margin at 28? It will work up to a point. The point being a program line of more than 80 characters. The computer will send a carriage return after the 80th character and start printing the rest of the code on a new line. Listing to disk will also give you an 80 column listing.

Since I originally wrote this program several years ago, two programs that do the same work have been brought to my attention. One is 28 Column Converter by Jim Peterson, published in Tigercub Tips #18, and the other is COLIST, a Fairware program by the McGoverns. Both are very nice programs and you may well find them more useful to you than the one presented here. (I had originally named my program COLIST but have since renamed it COLISTER to avoid confusion.)

COLISTER has a couple of features not available in the other programs. First, it will print a blank line between program lines. I feel this makes it easier to "read" the program, especially the spaghetti code I am prone to. It facilitates picking out a line number in the middle of the program when following those GOTOs and orELSEs.

Second, it TABs the output 6 spaces. This centers the listing when merged into 40 column text in TI-Writer's Editor, and provides a margin so hard copies can be loose leaf bound.

COLISTER does not require that a program's line numbers be resequenced in order to list it. A lot of my program lines are numbered from 1 to 10. Default resequencing (100,10) would sometimes destroy their Tinygram status. (COLISTER is a good example. One Tinygram "trick" is to use single digit line numbers to gain a few extra character spaces for your code.)

COLISTER will print to either disk or printer. Listings printed to disk can the be merged with text in TI-Writer's Editor. Do not print the listing through the Formatter unless you have modified your Formatter file to ignore the special format command characters that are also often found in programs.

This Tinygram uses only 4 sectors of disk space, which can be reduced to 3 sectors by deleting Line 1. It earns its keep on my SSSD utility disk. (Small is Beautiful)

Using COLISTER is very simple. First, load into memory the program you want to list. Next make a DV 80 listing by typing LIST "DSKn.FILENAME". Don't use the same filename as the program or the listing can overwrite the program.

Then load and RUN COLISTER. At the first prompt, enter the DSK number and the filename used above. For the second prompt, enter the print device name. This can be either PIO, RS232, or DSKn.FILENAME2. Again, use a different filename if reading from and writing to the same drive.

If you don't want the blank line between program lines, just change the FOR statement in Line 8 to read: FOR I=0 TO L-1. The TAB setting in this line can also be changed or eliminated, as desired. If for some reason you want a listing with a different width, say 40 columns for those "other" owners, just change the value of C in Line 5. (The reason it's in Line 5, and being constantly updated, is because that's where the room was. Another Tinygram "trick".)

If you prepare program listings for newsletters, I think you'll find this program useful. The algorithm used to detect a new line number is relatively unsophisticated. It hasn't failed me yet, but I'm sure that someone, someday will write code that will trip it up. For that reason it is well to always look over the output to be sure that lines have not been split or joined when they should not have been.

```
1 !   *** COLISTER ***
 A Tinygram by Ed Machonis
   QB-99ers, Bayside, NY

2 PRINT :"1st LIST your prog
ram to diskThen RUN COLISTER"

3 PRINT :;:"INPUT FILENAME?
ex:DSKn.LIST" :: INPUT F$ ::
 INPUT "OUTPUT FILENAME? ex:
 PIO or DSKn.LIST28 :":P$

4 OPEN #1:F$,INPUT :: OPEN #
3:P$,OUTPUT :: ON ERROR 10

5 C=28 :: LINPUT #1:A$ :: IF
 LEN(A$)<80 THEN 8

6 LINPUT #1:B$ :: IF VAL(SEG
$(A$,1,POS(A$," ",2)))<VAL(S
EG$(B$,1,POS(B$," ",2)))THEN
 F=1 :: GOTO 8

7 A$=A$&B$ :: IF LEN(B$)>=80
 THEN 6

8 A=LEN(A$):: L=A/C+.99 :: F
OR I=0 TO L :: PRINT #3:TAB(
6);SEG$(A$,I+1*C,C):: NEXT I
 :: IF EOF(1)AND F=0 THEN CL
OSE #1 :: CLOSE #3 :: END

9 IF F=1 THEN F=0 :: A$="" :
: GOTO 7 ELSE 5

10 ON ERROR 10 :: RETURN 7
```

STYLE A LINE
A TINYGRAM
by Ed Machonis

TINYGRAM: A short program which can be typed in its entirety on one screen without any program lines scrolling off the screen. (REM statements can scroll off.) Popularized, I believe, by Mike Stanfill of the Dallas TI Home Computer Group.

First of all let me make clear that this is not a novelty program. It is a work horse, provided you have the work for it. What kind of work? Do you ever have to print just a line or two, such as a page header, an article or picture title, a title for a data base printout, a credit line for a reprinted newsletter article, etc., etc. Further, would you like to print this in an Expanded Compressed Italicized Double Strike Underlined type style? Yes all the same time! If so, this program is for you.

What no printer? I will try to have something for you next month. (A TINY GRAM - NOT a printer!)

Many of you are familiar with my 10 Line basic programs, PRINTSTYLE and and PRINTALINE. (Both TINYGRAMS, written before I knew the name existed.) I often use both of them in titling data base printouts or copy for the Newsletter but it got to be a pain to change between the two every time I wanted to change a type style. Finally the light dawned! Why not marry the two?

STYLE A LINE is the result of that marriage. One major revision was to change an INPUT statement in PRINTALINE to a LINPUT. No more need to enclose in quotes any text lines containing commas or leading spaces

Using LINPUT required that the program run in extended basic. After some streamlining by deletion of unneeded features from PRINTALINE and the consolidation of statements into multi-statement lines, we wound up with 9 Lines of code. (After merging TWO TEN Line programs. The power of extended basic!)

Don't let its brevity fool you. You can select any of the 128 type styles available on the Epson RX-80 and many compatibles. With line spacing and margin variations, over 2000 different selections can be had. (Half line spacing and condensed superscript will let you tack on several lines of comment onto a photocopied article.)

Although there are better ways of doing it, you can even produce a right margin justified letter. (THIS is novelty!) Using Emphasized Pica, set Left Margin at 13, and enter text. Two screen lines will print text 54 characters wide (LINPUT uses two character spaces.) Justify text by inserting spaces between words so that second line ends at screen edge. But it will NEVER replace TI-Writer!

Using the program is very easy. When RUN, a menu is displayed for programming the printer. It is always best to select "1" to clear the printer. If your printer doesn't support a master reset code, turn it off then on to clear it. Combine styles by successive selections. Select Option 10 to input text.

If you wish to change the type style, or do repeated printings of the same text, typing "ZZZ" or "zzz" will return you to the menu. Option 9 will do repeat printing of the same text and styles can be changed as required. To input new text, select Option 10 again. When in text mode, pressing ENTER with no text input will print a blank line.

Watch those commas in Line 10. The next to last data item is a lower case "L", not the figure 1.

BRAIN TEASER: Where is the data to set the left margin at column 13?

```
1 ! *** STYLE A LINE   ***
  a TINYGRAM by Ed Machonis
    QB-99ers, Bayside, NY

2 DIM P$(15):: FOR I=1 TO 15
 :: READ P$(I):: NEXT I

3 OPEN #1:"PIO",VARIABLE 132

4 CALL CLEAR :: PRINT "1 PIC
A/RESET","9  PRINT TEXT","2
ELITE","10 INPUT TEXT","3 EX
PANDED","11 SUPERSCRIPT","4
COMPRESSED","12 SUBSCRIPT"

5 INPUT "5 EMPHASIZED  13 1/
2 LINE SP6 ITALIC      14 L
MARGIN 137 D'BLE STRIK 15 R
MARGIN 678 UNDERLINE    ?":I

6 P$(9)=" "&TEX$ :: PRINT #1
:CHR$(27)&P$(I):: IF I=4 THE
N PRINT #1:CHR$(27)&CHR$(15)

7 IF I<>10 THEN 4

8 PRINT :"INPUT TEXT OR 'ZZZ
' FOR MENU" :: LINPUT TRY$

9 IF TRY$="ZZZ" OR TRY$="zzz
" THEN 4 ELSE TEX$=TRY$ :: P
RINT #1:TEX$ :: GOTO 8

10 DATA @,M,M1,,E,4,6,-1,,,8
0,S1,1,1,QC
```

The 2nd word in the 2nd line originally read "listed". Using STYLE A LINE, the printed article was corrected to read "typed".

KIDS ##########

The Most BASIC
Ralph Kopperman

Something Borrowed: I usually try to discuss programs I've written in this column, but this month my son found a program in "ENTER" magazine (written by a 12-year-old) which uses the "CALL SOUND" command in a simple program to provide a very pleasant and random melody. The listing follows:

```
5 REM ECHO
10 DIM A(6)
15 RANDOMIZE
20 DATA 247,262,294,330,349,392,440
30 FOR B=0 TO 6
40 READ A(B)
50 NEXT B
60 B=INT(RND*7)
70 C=0
80 D=0
90 GOTO 130
100 D=C
110 C=B
120 B=INT(RND*7)
130 CALL SOUND(-200,A(B),0,A(C),9,A(D),19)
140 CALL KEY(0,E,F)
150 IF F=0 THEN 100
```

Discussion of program:

The program centers about 100-130, which assure that each note is played three times as new notes are added. This is done by first setting D to C (100), then C to B (110), then B to a new random number from 0 to 6, and then playing notes determined by B, C, and D (130 - for more information on CALL SOUND see the User's Reference Guide, II-87).

FOR KIDS

My son also recently found the following program, again in "ENTER". It's harder to enter and less entertaining than the other, but provides a good exercise in graphics, particularly in CALL VCHAR, a command we haven't previously discussed in this column. It also has some additional work in sound. If you're not sure of how to use the CALL CHAR command, I recommend at the least that you enter and run steps 260-320 below, and then command the computer to PRINT CHR$(151), etc., to 159, and see the results. CALL CHAR was previously discussed in one of our columns. Here's the listing:

Thanks to Ralph Kopperman and the New JUG newsletter.

```
5 REM BREAKDANCERS
10 RANDOMIZE
20 GOSUB 250
30 PRINT "MAKING A FOOL OF YOURSELF AND BREAKING YOUR BAC
40 PRINT "HUMAN OR COMPUTER CONTROL?"
50 INPUT CON$
55 CALL CLEAR
60 IF CON$="HUMAN" THEN 120
70 BD=INT(RND*5)+153
80 CALL KEY(0,W,E)
90 IF E=1 THEN 120
100 GOSUB 180
110 GOTO 70
120 CALL KEY(0,BD,N)
130 IF N=0 THEN 120

140 IF BD=32 THEN 70
150 BD=BD+102
160 GOSUB 180
170 GOTO 120
180 CALL VCHAR(12,10,BD-(INT(RND*2))+1)
190 CALL VCHAR(12,12,BD+(INT(RND*2))+1)
200 CALL VCHAR(12,16,BD)
210 CALL VCHAR(12,20,BD+(INT(RND*2))+1)
220 CALL VCHAR(12,22,BD+(INT(RND*2))+1)
221 V=VAL(SEG$("131175196",INT(3*RND+1)*3-2,3))
225  CALL  SOUND(-200,VAL(SEG$("3622943383549392440484522
9698784",INT(12*RND+1)*3-2,3)),0,V,5)
230 RETURN
240 GOTO 120
250 REM CHARS
260 CALL CHAR(151,"0000000094884438")
270 CALL CHAR(152,"0000824438383854")
280 CALL CHAR(153,"001BFE3B384492")
290 CALL CHAR(154,"9898FC3A3948489")
300 CALL CHAR(155,"0000000000847938")
310 CALL CHAR(156,"00107C2A7C2310C8")
320 CALL CHAR(157,"1424247838")
330 CALL CHAR(158,"41493E1C1C2214")
340 CALL CHAR(159,"40281E1D141414")
350 RETURN
```

Sketch of program: Characters representing people in various positions are created in steps 260-340. These are then printed at preselected screen positions using CALL VCHAR. These are randomly changed, creating the illusion of animation. At the same time, random music is played using steps 221 and 225 (a routine similar to but much simpler than, that in earlier program).

PIANO-

KIDS ## Do you want your children to learn to play the piano, but can't afford one right now? Here is an inexpensive substitute: the TI-99/4A piano.

You play only the bottom three rows, essentially all of the letter keys. You can play them with the shift key up or down. In one case you play whole notes, in the other one you play half notes, which repeat when you hold down the key.

The very bottom row plays noise tones when the shift key is locked down, very amusing to little children.

To keep the program simple, the screen is left blank. But that does not impede all you budding programmers to create some nice graphics to enliven this music program, and make it even more attractive to children.

This program was published in Nittinian, the Swedish newsletter for 99-ers, by an unknown author. The translation was done by Maurice E.T. Swinnen of the Washington DC Area 99-er Computer Club.

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50 REM PIANO, NITTINIAN 84-2
100 CALL KEY(0,K,S):: IF S=0 THEN 100
110 IF K=45 THEN 100
120 IF K<44 THEN 100 ELSE IF K>46 AND K<
58 THEN 100 ELSE IF K>60 AND K<65 THEN 1
00
130 IF K>90 AND K<96 THEN 100 ELSE IF K>
96 THEN 200 !CHECK IF LOWER OR UPPER CAS
E LETTER HAS BEEN PRESSED
140 IF K=44 THEN CALL SOUND(-100,1568,0)
:: GOTO 100
150 IF K=46 THEN CALL SOUND(-100,1760,0)
:: GOTO 100
160 IF K=59 THEN CALL SOUND(-100,698,0):
: GOTO 100
170 IF K=58 THEN CALL SOUND(-100,1661,0)
:: GOTO 100
180 IF K=60 THEN CALL SOUND(-120,-8,0)::
 GOTO 100
185 REM UPPER CASE LETTERS ASCII=65->90
190 ON K-64 GOTO 210,220,230,240,250,260
,270,280,290,300,310,320,330,340,350,360
,370,380,390,400,410,420,430,440,450,460
195 REM LOWER CASE LETTERS ASCII=97->122
200 ON K-96 GOTO 470,480,490,500,510,520
,530,540,550,560,570,580,590,600,610,620
,630,640,650,660,670,680,690,700,710,720
205 REM UPPER CASE LETTERS=HALF TONES+NO
ISE
210 CALL SOUND(-120,466,0):: GOTO 100
220 CALL SOUND(-120,-6,0):: GOTO 100
230 CALL SOUND(-120,-1,0):: GOTO 100
240 CALL SOUND(-120,622,0):: GOTO 100
250 CALL SOUND(-120,156,0):: GOTO 100
260 CALL SOUND(-120,740,0):: GOTO 100
270 CALL SOUND(-120,831,0):: GOTO 100
280 CALL SOUND(-120,932,0):: GOTO 100
290 CALL SOUND(-120,311,0):: GOTO 100
300 CALL SOUND(-120,1109,0):: GOTO 100
310 CALL SOUND(-120,1245,0):: GOTO 100
320 CALL SOUND(-120,1480,0):: GOTO 100
330 CALL SOUND(-120,-4,0):: GOTO 100
340 CALL SOUND(-120,-5,0):: GOTO 100
350 CALL SOUND(-120,370,0):: GOTO 100
360 CALL SOUND(-120,415,0):: GOTO 100
370 CALL SOUND(-120,177,0):: GOTO 100
380 CALL SOUND(-120,185,0):: GOTO 100
390 CALL SOUND(-120,554,0):: GOTO 100
400 CALL SOUND(-120,208,0):: GOTO 100
410 CALL SOUND(-120,277,0):: GOTO 100
420 CALL SOUND(-120,-7,0):: GOTO 100
430 CALL SOUND(-120,139,0):: GOTO 100
440 CALL SOUND(-120,-2,0):: GOTO 100
450 CALL SOUND(-120,233,0):: GOTO 100
460 CALL SOUND(-120,-3,0):: GOTO 100
465 REM LOWER CASE LETTERS=WHOLE TONES
470 CALL SOUND(-100,294,0):: GOTO 100
480 CALL SOUND(-100,1175,0):: GOTO 100
490 CALL SOUND(-100,988,0):: GOTO 100
500 CALL SOUND(-100,349,0):: GOTO 100
510 CALL SOUND(-100,131,0):: GOTO 100
520 CALL SOUND(-100,392,0):: GOTO 100
530 CALL SOUND(-100,440,0):: GOTO 100
540 CALL SOUND(-100,494,0):: GOTO 100
550 CALL SOUND(-100,220,0):: GOTO 100
560 CALL SOUND(-100,523,0):: GOTO 100
570 CALL SOUND(-100,587,0):: GOTO 100
580 CALL SOUND(-100,659,0):: GOTO 100
590 CALL SOUND(-100,1397,0):: GOTO 100
600 CALL SOUND(-100,1319,0):: GOTO 100
610 CALL SOUND(-100,247,0):: GOTO 100
620 CALL SOUND(-100,262,0):: GOTO 100
630 CALL SOUND(-100,110,0):: GOTO 100
640 CALL SOUND(-100,147,0):: GOTO 100
650 CALL SOUND(-100,330,0):: GOTO 100
660 CALL SOUND(-100,165,0):: GOTO 100
670 CALL SOUND(-100,196,0):: GOTO 100
680 CALL SOUND(-100,1047,0):: GOTO 100
690 CALL SOUND(-100,123,0):: GOTO 100
700 CALL SOUND(-100,880,0):: GOTO 100
710 CALL SOUND(-100,175,0):: GOTO 100
720 CALL SOUND(-100,784,0):: GOTO 100
```

```
100 ! CONVERT TI-ARTIST INSTANCES
110 ! TO TI-WRITER FILES
120 ! from Chicago Times 4-30-87
130 ! Original by David Dhein
140 ! Enhanced by Paul Berg, Trio+ Software
150 ! Extended Basic - EPSON only
160 ! Modified by Lutz Winkler, 12-02-87
165 ! Will not append _I to converted file
166 ! Reduces conversion time depending on number of zeros in the instance
167 ! Average time saved: 15%
170 CALL CLEAR :: CALL SCREEN(1):: FOR COL=0 TO 12 :: CALL COLOR(COL,16,1):: NEXT COL
180 DISPLAY AT(1,4):"TI-ARTIST TO TI-WRITER": :"      CONVERSION PROGRAM"
190 DISPLAY AT(5,1):"$$$$$$$ EPSON VERSION $$$$$$"
200 DISPLAY AT(7,1):"INSTANCE FILE NAME:"
210 DISPLAY AT(8,1):"DSK1."
220 ACCEPT AT(8,4)SIZE(-14):OLD$
230 DISPLAY AT(10,1):"NEW FILE NAME:"
240 DISPLAY AT(11,1):"DSK1."
250 ACCEPT AT(11,4)SIZE(-14):NEW$
260 A$="DSK"&OLD$ :: B$="DSK"&NEW$
270 DISPLAY AT(13,1):"CENTER OUTPUT? Y"
280 ACCEPT VALIDATE("YN")SIZE(-1)AT(13,16):C$
290 OPEN #1:A$,INPUT :: OPEN #2:B$
300 INPUT #1:X,Y :: IF X#Y>25 THEN DISPLAY AT(20,3):"This will take a while." :: DISPLAY AT(21,3):"be patient..."
310 PRINT #2:".TL 92:10" ! Backslash used as line feed
320 PRINT #2:".TL 61:27,65,8" :: PRINT #2:".TL 62:27,65,12" :: PRINT #2:"=" ! Equal sign is 8/72, Greater Than is 1/6 (default) line spacing
330 N$="" :: FOR N=1 TO X :: N$=N$&CHR$(127-N):: NEXT N
340 FOR K=1 TO Y
350 FOR L=1 TO X
360 INPUT #1:C(7),C(6),C(5),C(4),C(3),C(2),C(1),C(0)
370 FOR I=7 TO 0 STEP -1
380 A=C(I):: IF A=0 THEN 402
390 FOR J=7 TO 0 STEP -1 :: IF 2^J>A THEN 400 :: A=A-2^J :: B(J)=B(J)+2^I
400 NEXT J :: GOTO 402
401 A$="0"
402 NEXT I
410 A$=STR$(B(0)):: B(0)=0
420 FOR I=1 TO 7 :: A$=STR$(B(I))&","&A$ :: B(I)=0 :: NEXT I
430 PRINT #2:".TL "&SEG$(STR$(127-L),1,3)&":27,75,8,0,"&A$
440 NEXT L
450 IF C$="Y" THEN PRINT #2:".CE"
460 PRINT #2:N$&"\"
470 NEXT K
480 FOR N=1 TO X :: N$=".TL " :: N1$=SEG$(STR$(127-N),1,3):: N$=N$&N1$&":"&N1$ :: PRINT #2:N$ :: NEXT N
490 PRINT #2:".TL 92:92"
500 PRINT #2:".TL 61:61"
510 PRINT #2:">"
520 PRINT #2:".TL 62:62"
530 CLOSE #1 :: CLOSE #2
540 CALL CLEAR
550 END
```

FASTER CONVERSIONS

from TI-Artist to TI-Writer

The original version of this program (TI-Artist Instances to TI-Writer Conversion) appeared in the June 1987 issue of our newsletter. Basically, there is nothing wrong with it. But there were two things which bugged me. First, the file input routine. It automatically adds "_I" to the file it creates, though the new file is no longer compatible with TI-Artist. Second, the program is s--l--o--w.

Making the file input more flexible was no problem. I can now enter a proper instance file name suffixed with _I and generate a file with a name of my choice to which I append _T, indicating it is ready for TI-Writer. Attempting to speed things up was another matter. The heart of the program, the conversion routine, is very well and cleverly written. An instance file is nothing more than character definitions, except they are shown as decimals, not in hex. Converting these definitions to pin-firing patterns takes time. Ideally, it would be done with an assembly routine via CALL LINK, but until (and unless) somebody comes up with one, we are stuck with this program. I found only one place for a minor improvement. This shows in line 380 after A=C(I) "IF A=0 THEN 420" avoids going into the next loop (FOR J=7 TO 1 STEP -1). Since J always starts out being 7, any value of A (even zero) was checked to see if it was greater than 2^J (2x2x2x2x2x2x2). Exponentation requires a lot more time than a simple A=0, which is the only reason this modification results in a modest gain in performance.

Tests show that conversions with the modified program take about 15% less time. For example, an instance of 11x14 characters took 10:50 minutes to covert with the original and 9:20 with the modified program. The 15% figure is an average and conversions vary with the number of times a zero occurs in the instance file. If the instance is drawn black-on-white, there will be an improvement, if it is done white-on-black, don't expect much. Since an instance is saved in DIS/VAR 80 format, look at it with TI-Writer and if you see a lot of zeros, you can be sure it will convert a bit faster. By the way, on line 1 of the file there are two numbers. They show the width and length (in 8x8-pixel characters) of the instance. They are read by the program (X and Y in line 300) and set the limits for the K and L loops (lines 340 and 350).

While I was modifying the program, I decided to delete the printer selection, too. I have an Epson, so why waste time on one more key press and several lines of code. (Says he who also added a line [170] to set screen and text colors.) For those who do not own Epson-compatible printers: The transliterations for the characters which are used as printer commands are shown in lines 310 and 320. The backslash (ASCII 92) is used as a linefeed (ASCII 10), the = sign (ASCII 61) for 8/72 line spacing and the > sign (ASCII 62) to return to the default (1/6) line spacing. One more transliteration occurs near the end of line 430. It shows as :27,75,8,0 which is Epsonese for ESC K n n or "Turn single-density graphics mode on."

(EoF Lutz Winkler)

ARTIST FUNCTIONS

SYMBOL	FUNCTION	TYPE	USE OF ENTER/FIRE	COMMENTS
D	Draw	cmd	start/stop	hold fire down
P	Point	cmd	place	
L	Line	cmd	begin/end	
K	K-Line	cmd	begin/intermediate	D to exit
R	Rays	cmd	center/start/stop	D to exit
F	Fill	cmd	do	SPACE to abort
V	Frame	cmd	1st corner, opp. corner	
X	Box	cmd	1st corner, opp. corner	fills w/ pattern
O	Circle	cmd	center/edge	
Q	Disk	cmd	center/edge	fills w/ pattern
CTRL-A	Clear Image	cmd		leaves color, pattern
H	Hor/ Vert	cmd	begin/end	
N	Swap	cmd	new color/old color	
I	Invert	mode		negative image
E	AlphaNumeric	cmd	Begin lower left/stop	does not use fonts use CTRL x for width, FCTN x for height
CTRL-B	Clear Color	cmd		leaves pattern
S	Store	menu		load/save/index pictur
Z	Zoom	mode	select window	move with cursor cmds
M	Mirror	mode		4 reflections
C	Hard Copy	menu		
FCTN-.	Plot/Erase	mode		
FCTN-,	Foregnd Color	cmd	change to next color	
FCTN-:	Cursor Speed	mode		fast/slow toggle switch
F icon	Foreground/ Backround	mode		color chosen will be foreground or backround
P icon	Pattern in use	mode	display next pattern	only P is solid
- icon	Color Cursor	mode		use P to clean up color borders

ENHANCEMENT FUNCTIONS

M	Move w/o Color		select top left/bottom right/place	T to check
N	Move w/ Color		select top left/bottom right/place	T to check
C	Copy w/o Color		select top left/bottom right/place	T to check
D	Copy w/ Color		select top left/bottom right/place	T to check
A	AlphaNumeric	menu	enter text/place text	SPACE to exit, T to check
	Use a Slide		select/place	SPACE to exit
S	Slides	menu		
	Define		pick box/define slide	SPACE to exit
	Erase		pick slide	SPACE to exit
	Rotate		pick slide	SPACE to exit
	Load Slide file			_S added to filename
	Save Slide file			_S added to filename
	Load Instance		enter name/place instance	T to check _I added to filename
	Save Instance		enter name/select top lft/ bottom right	_I added to filename

keyboard cursor movement:
Horizontal/vertical--S/E/D/X
Diagonal--W/R/C/Z