# CEDAR VALLEY 99'ER USER GROUP
# NEWSLETTER

SEPT
1986

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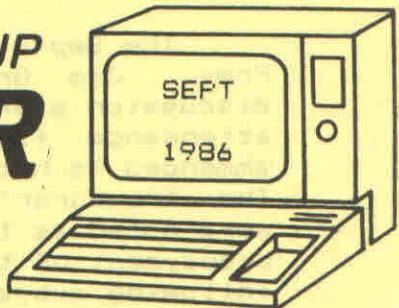
### NEWSLETTER TOPICS

1. Next Meeting Notes
2. Future Meeting Dates
3. Minutes From Sept Meeting
4. TI Computer Faire
5. Mail Call
6. Flight Simulator ?
7. Kantronics Interface for
   Ham Radio
8. Tips From The Tigercub

### ****NEXT MEETING****

Monday, Oct. 13, 7:00 PM at the
JA building, 330 Collins Road NE.
DEMONSTRATION:  HAM RADIO INTERFACE
We will have a demonstration of
Gary Bishops Kantronics interface for
for ham radio use as noted in his
article in this issue.  Gary will
also give us some insights on Disk
drive theory and application.
-Don't miss this opportunity.

### ****FUTURE MEETING DATES****

Please mark the following dates on
your calendar for future meetings:
October 13, November 10, December 8.

### ****CV99'er UG OFFICERS****

President:  Jim Green
288 Windsor Drive NE
Cedar Rapids, Iowa 52402
377-4073 (Home) or
395-1898 (Office)

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702 Fernwood Dr. NE
Cedar Rapids, Iowa 52402
393-0610

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377-9574

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920 Hillview Dr.
Marion, Iowa 52302
377-1715

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3179 Country Park Dr.
Toddville, Iowa
393-6022

Education:  James Trainor
6013 Langdon Ave. SW
Cedar Rapids, Iowa
396-2846

#### ****MINUTES FROM SEPT MEETING****

The September 8, 1986 meeting was called to order at 7:04:08 PM by Pres. Jim Green, with approx. 28 people present. The business discussion started with a debate regarding the accuracy of the August attendance figures as noted in the minutes. The August minutes were ammended to note 22 people in attendence vs. the 40322 reported, M/S/C. The Treasurer's report was read and approved. Major treasury changes were noted as the purchase of the monitor for the groups system and prepayment of the rent for the JA building. Discussions were held on the following subjects. A letter from a distant member prompted a request for interest in the Horizon RAMDISK. The primary interest appeared to be with DSDD systems and questions of its utility in these systems. It is DSSD capable as the 720 sector version. The information we have will be sent to the interested member. If someone has a RAMDISK we would appreciate a demo and/or discussions of their uses and limitations. The reviews of the recently acquired IUG software and the time for completion was discussed. It was agreed that they should be completed by the November meeting. This would make it available for the new year and reduce the risk of loss. Those who have packages to review please note. If you have questions please contact one of the officers. One of the members related the help he had received with a recent hardware problem and thanked all. It was noted that this group has many excellent technical resources available, so please contact one of the officers before you take a long or expensive route to have something repaired. The next programming course was discussed. There was interest expressed in both Forth and Assy. classes. If you have interest please contact Jim Green. A review of the possibilities will be held with the Education Chairperson. Run Length Encoded (RLE) software was discussed. This was noted as software that transfers graphics from different systems via. modem. Jim Reiss has and will provide the group a copy of fairware and/or public domain RLE software that he has. Thanks Jim. The Genie information sevice was noted as being the present choice of several of the TI 99 big names and some of its potential vs. the other services was discussed. The article on GRAMKRACKER in the August newsletter was discussed. Once again Jim Reiss provided the hands on information. A short discussion of the potential for Myarcs new computer was held. It was noted that a music synthesizer demonstration would be held at West Music Sept. 9.

Dave Reinhart demonstrated the DOOM OF MONDULAR program. The action adventure style generated a large interest group. The character and game definition capability were interesting. Thanks Dave.

The door prize went to Dan Johnson who elected to wait until further prizes are available. The four programs from the club library plus media went to Dave Reinhart.

Meeting adjourned.

-Submitted for the absent Secretary by Jerry Canady.

## USING THE TI WITH A KANTRONICS INTERFACE FOR HAM RADIO

I recently have completed setting up and checking out a Kantronics interface for the TI 99/4A computer. This is the connection between an amateur radio transceiver ( a transmitter and receiver in the same box) and the TI computer. There were several items that required attention to complete this interface, and these are outlined here.

First, a description of the Kantronics interface for those not familiar with it. The interface consists of a box about the size of the speech synthesizer that plugs into the side of the console. Then, there is a cable that connects to the Telecommunications Unit ( TU ), which is also a small sized box. The TU does all the signal processing from the transceiver, such as converting the analog to digital information, and audio filters required to operate. The TU has various audio filter option switches, and a bar type LED readout to indicate correct tuning of the receiver. There are several connections that must be made from this box to the transceiver, they are: key line, speaker audio output line, microphone audio input line, transmit/receive switching control line, and others. The TU is made to interface to almost any amateur radio station, with good instructions as to how to hook it up to the many possible combinations that can be found.

The box that plugs into the console contains all the software necessary to operate the system. No need for a disk system, cassette, or even a cartridge. The program is started by typing: OPEN #3:"HAMSOFT" when in either console or extended basic. The program is menu driven, with rather terse descriptions for the functions. The modes available to the user are: Morse code, RTTY ( radio teletype ), or ASCII ( computer ) codes. There is a wide selection of options for the possible wrinkles that can be encountered with these various systems. For starters, it is best to use the defaults as they are found when the program is fired up. The speeds for these modes are also selectable. There is a setable clock on the screen, and a transmit and receive screen buffer. You can type what you want to say ahead of time, and then transmit it when you want. There is also the capability to send any stored message as read from cassette or disk.

The balance of this article will describe the modifications to the Kantronics hardware, and those required for the TI console. The reason for these modifications fell into three broad classifications: those necessary to make the interface work with my particular radio, those required to suppress radiation of interference from the computer, and those required to make the whole system operate correctly.

The modifications to work with my radio were well documented in the manual that came with the interface. The audio level from the TU to drive my microphone input to the transmitter was not high enough. The manual clearly described the procedure of replacing two components inside the TU with lower values to provide more output. Also, the keying circuit in my radio was at a higher voltage than the TU transistor output could handle, so a relay was added inside the TU, also per the manual's instructions. At this point, I was ready to fire the system up. It worked the first time, but there were some problems yet to be solved.

The first and biggest problem was interference radiating from the TI computer system. Note I said system, not just the console. The steps to reduce and finally eliminate the radiation were increasingly complex. The only help from the manual here was "that because the TU and interface operate at only audio frequencies, any interference caused to a receiver must be due to the computer." This is mostly true, but the TU is now part of a complex system, and steps were necessary to improve the shielding and grounding in the TU and interface box. On to the console first.

I had to completely shield the keyboard on the TI. This required removal of the keyboard from the console and enclosing it in foil. Also, the main computer board that is metal shielded must be removed for later. The keyboard in my computer had a back that was flat, and the only circuitry on it was two wires connected to the alpha lock key. I put a strip of black electrical tape over these two connections, then removed all the keys. This is quite a chore, and many keys were very difficult to remove. Enough force is required to almost break the keys, but after successful removal of a few keys, your "prying" technique is adequate to remove all the keys except the space bar. This rascal just pulls straight up to remove, but look carefully at how it attaches to the keyboard. It is quite difficult to replace this one, so study it carefully. I used plain aluminum foil to make about two complete wraps around the keyboard, with small slots cut out to pass the ribbon cable thru to the main computer board. Then, I pushed down on each key post to puncture a hole in the top foil layers. After this hole is made, be sure to push the ragged edges of the foil down even with the base of the keyboard assembly, or otherwise the return springs will jam and bind with these edges. Do this for all keys and the tabs that hold down the space bar. Roll and fold over the ends of the foil on the mounting tabs at either side of the keyboard, and use an ice pick or small screwdriver to puncture the foil for the mounting holes.

Install the return springs and keys on the posts, and also install the space bar. Make sure all keys travel smoothly and do not bind. If any do, there is some foil protruding into the return springs that needs pushed back. Do not install the keyboard yet, and do not yet plug the keyboard ribbon cable into the computer unit. Use a small strip of foil to enclose the ribbon cable about twice, and extend the foil onto the back of the keyboard assembly and over the connector on the end of the cable. Now, use any kind of tape to fasten this foil to the back of the keyboard assembly. Trim off any foil that is on the underside of the connector, but allow some to hang over the back of this connector. This is so the foil won't short anything on the circuit board of the computer. Now, install the keyboard ribbon connector on the computer unit, and tape the excess foil from the ribbon onto the metal shield near the connector. What we have now done is to completely enclose the keyboard circuits in foil, and made this foil a continuous shield from the computer metal case. This traps all radiation that was escaping from the keyboard. Now, install the keyboard and computer unit back into the top case, but do not install the bottom yet, there is more to do.

I noticed that certain keyboards, such as the replacement keyboards available at Radio Shack, have exposed wiring and circuit traces on the back of them. If you have this type, you must first insulate this before using foil. Almost any good insulator would do, even a piece of thin cardboard or plastic.

Now, I had to dig out the soldering iron. A 0.1uf, 50 v bypass capacitor was soldered from each power pin on the rear power connector to the shell of this connector. Some older units had these installed already, and if they are there, leave them there. Now, solder a braid on the shell somewhere, and connect the other end to the shield on the computer board. If you don't have any kind of braided cable, a couple of regular solid or stranded wires will work. Make the attachment to the computer shield as close as possible to the power connector. This might require a larger iron than normally used for small electronic circuits, or use a 100 Watt or larger gun.

So much for the insides, now put the console all back together. The next steps are for the external wires that connect to the console. The power cord was ran thru a toroid core with 1-1/2 inch ID about 8 times, and taped to prevent it from unraveling. The type of toroid doesn't matter here, just the physical size. You need to pass the power connector on the end of the wire thru the hole when there is alread several wires wound on the core, so you need a rather large core. Try Radio Shack. This is done to choke off any interference that may still get out of the TI. For my setup, it was not necessary to do this to the video modulator cable, but other systems may require it, depending on the radiation level.

Now, same thing must be done with each cable comming out of the back of the TU, or about 4 wires. A smaller toroid core can be used here. Be sure to do this to the power supply cord going to the TU from whatever source you are using, either power pack or battery. Again, tape these wires so they don't unravel when released.

I had to add a shield plate to the top of the blue edge connector on the interface box, to make a continuous ground from the computer into the box. This box had the case grounded only to the 2 pins on the connector, and I felt this was inadequate for the level of shielding needed. The actual plate was from the upper half of a shield from a speech synthesizer. We have many extra of these shields and boxes because I was on a crusade to mount all synthesizers for our club inside the console. A little metal work with tin snips and one small drilled hole made this fit nicely on the top of the edge connector, and attached to the assembly inside the interface box, to the maing ground screw.

The cable between the interface box and TU required some additional attention. A toroid core was used with about 6 loops at the interface end, and the entire cable was shielded with a braid attached to the outer screw of the interface.

Taking these steps eliminated about 98% of the interferrence problem, with the remaining 2% attributed to the nearness of the computer to the radio. Remarkably, my small portable television used as a monitor does not radiate any interference, either from itself or from the computer. Just luck, I guess.

Well, after all this, the receiver can be tuned without a lot of squaking, squeeking or birdies and garbage everywhere. You can actually hear signals now.

On my first attempt to transmit, things didn't work right. It was hard to tell what was going on at first, but I finally traced it down to a thing called a "gound loop." This is when everything is grounded together, but some grounds have noise induced in them, upsetting the item it is connected to. In my case, I had a severe gound loop, resulting in not being able to send anything the computer generated. This fix got even more complicated than the previouse ones, and I will only describe the general methods used to eliminate the problem.

First, the microphone output from the TU had to be isolated with a transistor audio interstage transformer; power and frequency response is not critical. Good ole Radio Shack has them. Next, the same thing has to be done to the speaker audio output from the transceiver. Again, use the same type of transformer here. Finally, I had to rewire the headphone jack of my radio to not disconnect the speaker when something is plugged into the jack. This means that you can plug the TU into the headphone jack and still hear thru the speaker, while the TU is picking up the signals across the speaker.

After all this, the system works fine, except for the occasional weak squeek that just happens to land right on top of the signal I want to hear. I am still searching for that last 2%, and will gladly accept suggestions from anyone having ideas where to find it. Also, if I solve it, I will let you know, either in this newsletter, or if you contact me thru the User's Group.

(P.S.) I have since learned that Kantronics has discontinued manufacturing the type of interface I am using. They are still in the business, but do not support direct connection to any computer except Commodore. They do still provide many types of TU's as described above, but the interface to the actual computer is left to the purchaser. I will provide the schematic of the side box connection of my interface to anyone who sends me a self addressed stamped envelope, provided Kantronics doesn't shut me down in the mean time. The box contains a 9901 peripheral interface chip, and a 2732 PROM with some code burned into it. Also, I found out this has a test mode by starting the program with: OPEN #3:"DEBUG"  I don't quite know all what is going on, but the V, G, M, F, and T keys do interesting things with the screen.
- Gary D. Bishop NQOV, 860 Westview Dr, Marion, IA 52302.

TIPS FROM THE TIGERCUB

#37

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*                           *
* Tips from the Tigercub    *
* Vol. 3 is now ready,      *
* Another 62 programs,      *
* routines, tips, tricks.   *
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*                           *
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For descriptions of these send a dollar for my catalog!

I'm going to mail out the July and August Tips at the end of June, and go fishing. Imagine, a TI publication AHEAD of schedule! However, in the unlikely event that anyone should send me an order, it will receive my usual one-day service.

Here's another tune for the dulcimer player in the last Tips. Change the TO value to 94 -
350 DATA 9,11,13,13,13,13,13

,16,16,13,13,11,11,11,11,11,11
360 DATA 16,18,14,21,18,18,16,13,9,11,9,9,9,9,9
370 DATA 21,20,18,18,16,13,16,16,9,11,13,11,13,14,13,13
380 DATA 21,20,18,18,16,13,16,16,9,13,11,9,8,6,4,4
390 DATA 9,11,13,13,13,13,13,16,16,13,13,11,11,11,11,11
400 DATA 16,18,14,21,18,18,16,13,9,11,9,9,9,9,9

Here's one for those who like graphics, and those who make a living designing floor tiles. It borrows a bit from a Renko & Edwards program -
100 CALL CLEAR :: F=2 :: BC=16 :: RANDOMIZE :: DISPLAY AT(2,10):"ESCHER ART": :TAB(14):"by": :TAB(9):"Jim Peterson"
110 DISPLAY AT(12,3):"Press Q for new pattern":"
R to change colors":"
C for new colors": :"
Any key to start"
120 CALL KEY(0,K,S):: IF S=0 THEN 120 ELSE CALL CLEAR
130 DATA 808080808080808080FF0000000000000010101010101010101000000000000000FF
140 DATA 2020202020202020000000FF00000000004040404040404040400000000000FF0000
150 DATA 10101010101010101000000FF00000000808080808080808000000000FF000000
160 DATA C0C0C0C0C0C0C0C0FFFF000000000000303030303030303000000000000000FFFF
170 DATA F0F0F0F0F0F0F0F0FFFFFF00000000000F0F0F0F0F0F0F0F0F000000000FFFFFFFF
180 DATA 804020100804020100204081020408080402010080402010100204081020408000
190 DATA 10102040C08080808080000403000000000000000000003040808000000000C0201010
200 DATA FFFEFCF8F0E0C080FF7F3F1F0F0703010103070F1F3F7FFFF80C0E0F0F8FCFEFF
210 DATA F0F0F0F0F00000000000F0F0F0F00000000000000000F0F0F0F000000000F0F0F0F0
220 DATA 80C0A090888482FFFF8204080090A0C080FF41211100050301
230 DATA 8142241818244281814224181824428181422418182442818142241818244281
240 DATA 808080808080FF808080818101010FF010101010101010FF010101808080FF808080808
250 DATA AA55AA55AA55AA5555AA55AA55AA55AAAA55AA55AA55AA555AA55AA55AA55AA
260 DATA F0F0F0F0F00F0F0F0F0F0F0FFF0F0F0F0F0F0F0F0F0FF0F0F0F0F0F0F0F0FF0F0F0F0
270 CALL CHAR(84,RPT$("0",64)):: FOR CH=88 TO 140 STEP 4 :: READ CH$ :: CALL CHAR(CH,CH$):: NEXT CH :: CALL SCREEN(5)
280 A=INT(6*RND+3):: H=INT(24/A):: HC=INT(28/A):: W=ABS(HC/2=INT(HC/2)):: DIM M(8,8):: FOR P=1 TO A
290 D(P)=INT(15*RND+21)*4
300 NEXT P :: GOSUB 370
310 CALL KEY(3,K,ST):: IF K<>81 THEN 330
320 CALL SOUND(50,500,5):: FOR J=1 TO 4 :: FOR JJ=1 TO A :: M$(J,JJ)="" :: NEXT JJ :: NEXT J :: GOTO 280
330 IF K<>67 THEN 360 :: F=INT(15*RND+2)
340 BC=INT(15*RND+2):: IF BC=F THEN 340
350 FOR S=7 TO 14 :: CALL COLOR(S,F,BC):: NEXT S :: GOTO 310
360 IF K<>ASC("R")THEN 310 :: T=F :: F=BC :: BC=T :: GOTO 350
370 ON A-2 GOSUB 380,390,400,410,420,430 :: GOTO 520
380 RESTORE 440 :: RETURN
390 RESTORE 450 :: RETURN
400 RESTORE 460 :: RETURN
410 RESTORE 470 :: RETURN
420 RESTORE 480 :: RETURN
430 RESTORE 500 :: RETURN
440 DATA 1,2,1,2,3,2,3,1,3
450 DATA 1,2,2,1,2,3,3,2,3,4,4,3,4,1,1,4
460 DATA 1,2,3,1,2,2,3,4,3,2,3,4,5,4,3,4,5,1,5,4,5,1,2,1,5
470 DATA 1,2,3,3,2,1,2,3,4,4,3,2,3,4,5,5,4,3,4,5,6,6,5,4,5,6,1,1,6,5,6,1,2,2,1,6
480 DATA 1,2,3,4,3,2,1,2,3,4,5,4,3,2,3,4,5,6,5,4,3,4,5,6,7,6,5,4

```
490 DATA 5,6,7,1,7,6,5,6,7,1
,2,1,7,6,7,1,2,3,2,1,7
500 DATA 1,2,3,4,4,3,2,1,2,3
,4,5,5,4,3,2,3,4,5,6,6,5,4,3
,4,5,6,7,7,6,5,4
510 DATA 5,6,7,8,8,7,6,5,6,7
,8,1,1,8,7,6,7,8,1,2,2,1,8,7
,8,1,2,3,3,2,1,8
520 FOR J=1 TO A :: FOR JJ=1
TO A :: READ M(J,JJ) :: NEXT
JJ :: NEXT J
530 X=A+1 :: FOR J=1 TO A ::
FOR JJ=1 TO A :: M$(1,J)=M$
(1,J)&CHR$(D(M(J,JJ)))
540 M$(2,J)=M$(2,J)&CHR$(D(M
(JJ,X-J))+1)
550 M$(3,J)=M$(3,J)&CHR$(D(M
(X-J,X-JJ))+2)
560 M$(4,J)=M$(4,J)&CHR$(D(M
(X-JJ,J))+3)
570 NEXT JJ :: NEXT J
580 CALL CLEAR :: FOR R=1 TO
A*H STEP A :: FOR C=1 TO A*
HC STEP A
590 CALL KEY(0,K,ST):: IF K=
81 THEN 320
600 V=V+1+(V=4)*4 :: FOR T=1
TO A :: DISPLAY AT(R-1+T,C)
:M$(V,T):: NEXT T :: NEXT C
:: V=V+W+(V=4)*4 :: NEXT R
610 RETURN
```

This routine will search a
disk file for up to 10 key-
words in one pass - more if
you DIM K$( ) - and you may
elect to find all records
which contain the keyword or
only those which contain it
in combination with one of 1
or more secondary keywords.

```
100 CALL CLEAR
110 Y=0 :: DISPLAY AT(3,5):"
TIGERCUB KEYSEARCH" :: DISPL
AY AT(6,1):"Filename? DSK":
: ACCEPT AT(6,14)BEEP:F$ ::
OPEN #1:"DSK"&F$,INPUT
120 DISPLAY AT(8,1):"Output
to":" (1)Screen":" (2)Printe
r":" (3)Both" :: ACCEPT AT(8
,11)VALIDATE("123")SIZE(1)BE
EP:Q
130 IF Q>1 THEN DISPLAY AT(1
3,1):"Printer name?" :: ACCE
PT AT(13,15):P$ :: OPEN #2:P
$
140 DISPLAY AT(15,1)"Search
for":" (1)First match":" (2
)All matches" :: ACCEPT AT(1
5,13)VALIDATE("12")SIZE(1)BE
EP:S
150 DISPLAY AT(12,1)ERASE AL
L:"Press ENTER when all key-
":"words have been entered."
160 DISPLAY AT(17,1):"Press
ENTER if none -"
170 Y=Y+1 :: DISPLAY AT(15,1
):"Keyword?.";CHR$(127):: AC
CEPT AT(15,10)SIZE(-28)BEEP:
K$(Y):: IF K$(Y)=CHR$(127)TH
EN 190
180 W=W+1 :: DISPLAY AT(19,1
):"With? ";CHR$(127):: ACCEP
T AT(19,7)SIZE(-21)BEEP:W$(Y
,W):: IF W$(Y,W)=CHR$(127)TH
EN W=0 :: GOTO 170 ELSE GOTO
180
190 Y=Y-1
200 LINPUT #1:M$
210 FOR J=1 TO Y :: IF POS(M
$,K$(J),1)=0 THEN 290
220 IF W$(J,1)=CHR$(127)THEN
250
230 W=W+1 :: IF W$(J,W)=CHR$
(127)THEN W=0 :: GOTO 290
240 IF POS(M$,W$(J,W),1)=0 T
HEN 230
250 IF Q>1 THEN PRINT #2:M$
260 IF Q<>2 THEN PRINT M$
270 IF S=1 THEN 310
280 IF W$(J,W)<>CHR$(127)THE
N 230
290 NEXT J
300 IF EOF(1)<>1 THEN 200
310 CLOSE #1 :: DISPLAY AT(2
4,1):"FINISHED - PRESS ANY K
EY" :: CALL SOUND(200,500,5)
320 CALL KEY(0,K,ST):: IF ST
=0 THEN 320 ELSE CALL CLEAR
:: GOTO 110
```

You can set up a keyfile
in TI-Writer - just remember
that each 80-character line
is a separate record, and
keep the Alpha Lock down!

However, this is the pro-
gram that I plan to use to
set up a keyfile index of
all the newsletters you have
sent me, if I ever find the
time -

```
100 DISPLAY AT(3,10)ERASE AL
L:"TIGERCUB": :"    KEYWORD I
NDEX WRITER" !by Jim Peterso
n
110 DISPLAY AT(8,1):"Filenam
e? DSK" :: ACCEPT AT(8,14):F
$ :: OPEN #1:"DSK"&F$,APPEND
:: CALL KEY(3,K,S)
120 P$="*****" :: Y=00 :: M$
="**" :: P=00
130 DISPLAY AT(12,1):"NEWSLE
TTER? ";P$ :: ACCEPT AT(13,1
)SIZE(-28):P$ :: IF SEG$(P$,
1,3)="END" THEN CLOSE #1 ::
STOP
140 DISPLAY AT(14,1):"YEAR?"
;Y :: ACCEPT AT(14,7)VALIDAT
E(DIGIT)SIZE(-4):Y
150 DISPLAY AT(14,13):"MONTH
? "&M$ :: ACCEPT AT(14,20)SI
ZE(-9):M$
160 DISPLAY AT(16,1):"PAGE?"
;P :: ACCEPT AT(16,7)VALIDAT
E(DIGIT)SIZE(-3):P
170 DISPLAY AT(18,1):"ARTICL
E? " :: ACCEPT AT(19,1):A$
180 DISPLAY AT(20,1):"AUTHOR
?" :: ACCEPT AT(21,1):AU$
190 DISPLAY AT(22,1):"KEYWOR
DS?" :: ACCEPT AT(23,1):K$
200 PRINT #1:P$&" "&STR$(Y)&
" "&M$&" "&STR$(P)&" "&A$&"
"&AU$&" "&K$
210 GOTO 130
```

Here's one to have fun
with, from an ingenious
German programmer. I just
couldn't resist adding a
tuba to his band.

```
100 !BY TORSTEN NIEMIETZ, MA
RBACHER WEG 3,D-2800 BREMEN
1,WEST GERMANY
110 FOR J=1 TO 10 :: READ T(
J)
120 NEXT J :: E=330 :: A=440
:: H=494 :: C=554 :: K=659
:: F=740 :: G=831
130 DISPLAY AT(3,8)ERASE ALL
:"S - O - L - O": :TAB
(10);"MIT OOMPAH": :RPT$("="
,28): : :"BY":" TORSTEN NIEM
IETZ": :"mit Oompah by Tiger
cub"
140 DISPLAY AT(18,1):"MAKE U
P YOUR SOLO WITH":"KEYS 1 TO
9 ... COME ON !!!!"
150 FOR S=1 TO 2 :: CALL SOU
ND(200,E,3,H,3):: CALL SOUND
(200,E,3,H,3)
160 CALL SOUND(200,E,3,C,3):
: CALL SOUND(200,E,3,H,3)::
NEXT S
170 M=E :: N=H :: O=C :: D=8
:: GOSUB 210 :: M=A :: N=K
:: O=F :: D=4 :: GOSUB 210 :
: M=E :: N=H :: O=C :: GOSUB
210 :: M=H :: N=F :: O=G ::
D=2
180 GOSUB 210 :: M=A :: N=K
:: O=F :: GOSUB 210 :: M=E :
: N=H :: O=C :: GOSUB 210 ::
M=H :: N=F :: O=G :: GOSUB
210
190 FOR X=10 TO 3 STEP -1 ::
CALL SOUND(200,E,3,H,3,T(X)
,0)
200 NEXT X :: CALL SOUND(800
,E,3,H,3,K,0):: GOTO 150
210 FOR X=1 TO D :: FOR Y=1
TO 2 :: GOSUB 280
220 CALL SOUND(200,M,3,N,3,T
(R-48-(R=48))*.9375,30,-4,0)
230 NEXT Y :: GOSUB 280
240 CALL SOUND(200,M,3,O,3,T
(R-48-(R=48))*.9375,30,-4,0)
:: GOSUB 280
250 CALL SOUND(200,M,3,N,3,T
(R-48-(R=48))*.9375,30,-4,0)
260 NEXT X :: RETURN
270 DATA 587,659,784,880,988
,1175,1319,1568,1760,44733
280 CALL KEY(0,R,S):: IF S<>
0 AND R>48 AND R<58 THEN RET
URN ELSE R=57 :: RETURN
```

```
1 !ONE-LINER universal calen
dar for day of week of any d
ate since 1905 - by Dennis H
odgson in Sydney News Digest
2 !input day, month, year as
for instance 30,4,1986
100 A=1 :: INPUT D,M,Y :: FO
R T=A TO M-A :: H=H+29+VAL(S
EG$("28212122121",T,A)):: NE
XT T :: J=H+(Y/4<>INT(Y/4)AN
D M>2)+INT((Y-A)*365.25)+D :
: PRINT SEG$("SASUMOTUWETHFR
",(J-INT(J/7)*7)*2+A,2):: RU
N
```

Yes, there are legitimate
uses for GRAM copiers and
track copiers and such -
but there is no way to get
these utilities into the
hands of the few who will
only use them honestly,
without also getting them
into the hands of the many
who will use them as burglar
tools. And so, a few more
nails are driven into the
coffin...

MEMORY FULL

Jim Peterson

TI COMPUTER FAIRE:

The Chicago-Area TI99/4A Users' Group has announced the date for their FOURTH ANNUAL computer faire, to be held on November 1, from 9:00 am to 6:00 pm.  Location is the Ironwood Room at Triton College, 2000 N.  Fifth Ave.,  River  Grove,  Illinois (1/4 mile north of the Maywood Park harness race track).  Many vendors and programmers will be there, along with more than  2000  TI enthusiasts.  Contests, seminars, door prizes and drawings will be featured.  This faire has been one of the best  in  the  nation. Admission is just $1.00 with your valid user group membership card; $2.00 for  general  admission.   More  information?  312-477-0690  evenings  or 312-966-2342 (BBS).

How  about  a  car  pool  from  our  group?  Let's discuss at the October meeting.


NEITHER SNOW NOR SLEET, ETC.:

The mailman has blessed us with  the  following  pieces  of  information. Details can be had from any of the officers at the October meeting.

Unitech (Cambridge, Mass) - disks, labels, paper, PC's.

CompuChips (Daly City, CA) - electronic components.

Dresselhaus Computer Products (Glendora, CA) - "Dots-Perfect" upgrade kit for Epson printers, $64.

Last Word (Keene, NH) - Teeshirts, sweatshirts with computer stencils.

H&O Enterprises (Vermillion, SD) - disks, ribbons, lables, etc.

PC Software & Supply (Sioux City, IA) - IBM compatible  software,  public domain.

DataBioTics (Palos Verdes Estates, CA) - Miniwriter II and Miniwriter III cartridges at new low prices ($20, $25).  Also, Steve Davis books on  the TI; superspace cartridge.


WOULD YOU BUY A SOPHISTICATED FLIGHT SIMULATOR?

In  the  July,  1986  issue  of  Micropendium,  John  Dow  wrote a letter revealing that he has been working on a real flight  simulation  program, in  assembly  language, for the 99/4A.  His description makes the program sound as though it is as capable as the Microsoft simulator on  the  IBM. Full  views  out  the  cockpit  windows,  joystick  and  keyboard control required, full instrument panel, etc.  Those of  you  who  purchased  Mr. Dow's  earlier BASIC program know that he has talent and knows how to fly (or at least simulate it).

John's letter was written to find out if enough people would buy  a  new, full featured simulator program so that it would be worthwhile for him to finish his simulator.  If you would be interested in buying a new  flight program, we suggest you write John a note.  Since I don't have his street address, write in care of Micropendium, P.O.  Box 1343,  Round  Rock,  TX 78680.  Include your estimate of what such a program should be worth.

Cedar Valley 99'er User's Group
288 Windsor Dr. NE
Cedar Rapids, IA 52402