K3 USERS GROUP
PO BOX 1941
KANKAKEE, IL.
60901

May + June 86

NEXT MEETING

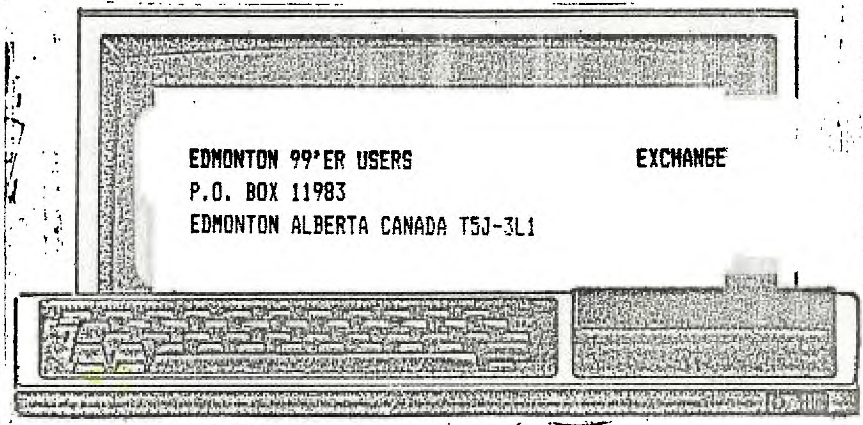
MAY 17, 1986
JUNE 21, 1986

BOURBONNAIS
MUNICIPAL
CENTER

1 pm 'til 4 pm

SEE YOU THERE!

K3 TI USERS GROUP NEWSLETTER



EDMONTON 99'ER USERS EXCHANGE
P.O. BOX 11983
EDMONTON ALBERTA CANADA T5J-3L1

VOTE

EDITOR'S PAGE
Beverly Cook, Editor
May/June 1986

Hello again! Spring fever is upon us once more as shown by the striking absence of warm bodies at our last meeting. The nice weather seems to act like a magnet, drawing people outdoors, away from their computers. Even I have not been as active at the console as I was during the nasty months. I forgive you all, but please try to attend our next two meetings.

Our May meeting will feature a demo of an MBX system by Mark Harms and a demo of one of the Library's Utility disks.

At our June meeting, we will hold our elections and then have a copy session. Bring your own blank disks and stock up on some interesting and useful programs from the library. Disks can be obtained for $1.00 a copy, (members fee) and $2.00 a copy non-member fee. Bring your TI friends! The more the merrier!

Due to our dwindling membership, we were forced to discontinue our support of the BBS. Therefore, we will be selling the club system (PE box, SS/SD drive, Controller Card and DM 2). For further details, check with Mark Harms or Bev Cook.

Since we weren't able to do any copying at our April meeting, we will have 2 disks as the Disk of the Month. Come in and get your copy of a disk full of games and a disk full of Utilities. At our June meeting, we will offer another disk full of games.

See you at our meeting!

Chairman	Mark Harms
Vice-Chairman	Bruce Shearer
Secretary	George Lempeotis
Treasurer	Glen Flowers
Librarian	Rich De Roos
Newsletter Ed.	Beverly Cook

K3 TI USERS GROUP
BOARD MEETING MINUTES
APRIL 27, 1986
by GEORGE LEMPEOTIS
SECRETARY

At the April 27,1986 K3 board meeting there where all six board members in attendance.

The library had fair sales of blank disk and programs at the March and April main meetings.

The board members will be up for election at the June meeting. The board members are looking for interested candidates to serve on the board to get the board up to a full seven members. Please contact any board member at the May meeting, if you would like to be on the board.

The board members voted unanimsous to stop support to the K3 bulletin board. The decision was based mainly on lack of income to fund the bulletin board's $15.00 monthly line charge. The K3 bulletin board will go down for good on approximately May 10, 1986. I feel the move was sad because in nine months of operation TI-K3 received 4200 calls and had 90 users, but the group did not have enough income to keep up the line charge of $15.00 a month. The board will now try to sell the expansion system and ex-basic module used on the bulletin board, if you are interested please contact one of the board members.

The May 17, 1986 main meeting will feature a demo of a MBX system by Mark Harms. The free program of the month will be the Chicago UG Utility I disk, with a demo of some of the programs by George Lempeotis.

The June 21, 1986 main meeting will be a public domain program copy session, so bring some disks and programs and trade for some new ones. The election for board members will also take place at this meeting. The free program of the month will be a game disk from the Chicago UG.

That is all we covered at the board meeting, hope to see you at an upcoming meeting.

The Chicago Area TI Users Group
Non-Attending Membership

by George Lempeotis

Since the Chicago TI Users Group has been so very generous to our group by providing the K3 library with programs, I am providing this space to help them out by outlining their new non-attending membership plan. This plan is well worth the cost, and is detailed below.

The Chicago Area TI-994/A Users Group is offering a non-attending membership for potential members who cannot attend their regular monthly meeting. The non-attending membership is aimed at people who do not live in the Chicago area or for some other reason cannot attend the monthly meetings.

The non-attending membership initially costs $18.00 for the first year (annual membership renewal is $15.00). The non-attending membership includes;

1- A double-sided single density disk or a 30 minute cassette full of sample programs from their extensive library.

2- A copy of the Chicago Users Group library catalog-over 2000 programs.

3- A years subscription to the Chicago Users Group newsletter, the Chicago TI-Times.

4- A free password to the Chicago Users Group's bulletin board, which is good for life and gives you access to the private sections of the BBS.

The non-attending membership is well worth the $18.00. For $3.00 more than their regular membership, you get a disk or cassette full of software (normal cost $5.00), a free lifetime password to their BBS, and a free library catalog (normal cost $1.00 each). A new member can save $4.00 and not attend the monthly meeting.

The Chicago Users Group newsletter is the best I have seen and is loaded with all kinds of TI information (TI-news, programs, software reviews, and more). The TI-Times is better for TI users than most magazines, and rivals the old 99'er in content and value. The Chicago TI-Times alone is worth the cost of the membership.

Write to the address below for more information on this great value, an application, or send a check to start your membership today.

Mr. Don Jones / Membership Chairman
Chicago Area TI-99/4A User' Group
P. O. Box 578341
Chicago, Illinois 60657

HOW TO BUILD A SUPER CARTRIDGE

BY MARK HARMS

TAKEN FROM AN ARTICLE IN MICROPENDIUM

What does one do with a "Munchman" or other similar module when you're tired of playing with it?.

Well I decided to give the SuperCart a shot. It's a homemade module that is the "E/A" Module and 8K of battery backed ram. This is similar to the Minimem Module but with twice the ram.

The first thing you need to do is call the TI-Cares line and order an E/A Grom chip. The cost is only about 3.50 a piece, so you may want to get a few of them at one time.

Next it's off to Radio Shack for a few small parts. You need 1 2.2uf Tantalum capacitor, 2 1K 1/4 watt resistors, 2 1N194 signal diodes, and last one 3volt Lithium battery (the thin button type), also a 16-pin IC socket for the E/A chip, these parts will set you back about 4.00.

Get about two foot of wire. Single-strand is best, and it won't take to much heat to solder it to the other parts.

Lastly, you will need a 6264 LP-15 Ram chip. This chip varies in price from 3.00 to 4.00 depending where you find it. If you have problems finding one let me know and I'll get one at the Chicago meeting.

Now with all parts in hand, the fun will now begin!

If you have never taken on a thing like this before you're in for a treat. It's a simple thing to assemble, but a bummer to get it apart. Once you have opened the old module you must remove the old chip and the resistor on the right side of the board. This might take some time, it will give you a chance to practice with the soldering gun. Once you have the stuff off the board you're ready to put the new ones on.

Take the board and find pin 3 on the connector at the bottom. With a sharp knife cut off about an eighth of an inch of the metal like the illustration above.

Look at the front of the board and find the capacitor that is still on, it is between the spot where the two chips were. Unsolder the bottom lead and put it in the other spot that is right next to it. Do the same with the top lead too.

Get that sharp knife again. Cut the metal between the lower two spots that has a cap lead. Solder a piece of wire in the hole that is empty. The other end goes into the hole that is sixth from the bottom on the big chip. Sorta like the diagram.

Next, solder one end of one of the resistors in the hole next to the top of the capacitor. Leave the other end hang for right now!

Now get the socket for the E/A chip, solder it in the spot where the other little chip was, making sure that there are no shorts on top or on the back.

Find your ram chip that's the 6264 and carefully bend out to a horizontal position each of these pins: 1,2,20,27, and 28. Get a short peice of wire and solder it between 20 and 22.

Next, solder a wire to pin 2. You'll need about 6 inches for this. Solder another wire of about the same length to pin 28. Solder a wire about 4 inches long to number 27 pin. Watch for a short between the the pins. Put the chip down a minute for it to cool, and check the board. The holes that the chip will go into must be clear of solder. If they are, solder the chip onto the board placing the bottom set of pins in the bottom set of holes of the old chip. Solder, by the way, is put on the back side of the board, but you knew that from taking the chips off.

Now solder the other end of that resistor to pin 20.

Take the wire that is connected to pin 27 and connect it to pin 3 of the connector at the bottom (the one that you shortened). Then get the wire on pin 2 and connect it to pin 7 of the connector.

Put the Grom chip in the socket. The little notch goes away from the connector pins at the bottom of the board.

Now go to the far right of the board and find the spot where you took out the resistor. Get your knife and isolate the hole that was the bottom of the resistor. check both sides of the board and make sure that no other connection is made to this spot!!

Take the 2.2uf cap and put the side that has the red dot in the hole you just prepared. The other end goes to a nearby hole in the grounded area to the right.

Find the last 1k resistor and solder it to the dot side of the capacitor that you just put in. Get the last diode, find the black line on it and take the lead on that side and solder it to the dot side of that cap. Let the two ends hang for a second while you get the other diode. Find its black line and solder it to the resistor end that is still free.

Go to the grom chip and find the lower right hand pin. There will be a big line coming from it. Follow the line till it ends and put the diode without the resistor. Solder it down.

Locate the wire that you soldered to pin 28 of the ram chip and solder it to the dot side of the cap.

We are now ready for a test of what you have so far. With the computer off, carefully insert the board into the grom port. Watch that it goes into the connector. Bend the lead of the diode and resistor combimation up so that it does not touch anything.

Take a deep breath and turn on the power!

Got a title screen??? If not, shut down and check all the connections and try again.

If you got one first try, hit the spacebar and get ready for test two. Is there an option for Editor Assembler? If not, you know what to do (check and recheck).

If you have the option for E/A, select it. Try loading something with it like you would with a regular E/A module. If all checks good, hit function quit and then the space bar.

Now from the list select Basic. Type in the following program:

```
100 CALL LOAD(24576,1,2,3,4)
110 CALL PEEK(24576,A,B,C,D)
120 PRINT A,B,C,D
130 END
```

RUN IT!

If you got 1 2 3 4 back on your screen congratulations, it works!

Now you're ready to put the battery in the curcuit. So shut down the system and take out the module and it's down hill from here.

Take a wire and solder it to the side of the cap that does NOT have the dot.

Get the battery, take a piece of fine emory or sand paper and ruff up a spot on both sides of it. Now I know this aint recommended, but take the end of the diode that is free and solder it to the plus "+" side of the battery. Take care not to leave the gun on it too long! The other free wire that is on the non-dotted side of the cap goes on the other side of the battery.

Note: If soldering to a Lithium battery is too nerve racking for you then you can buy the holder for it and play it safe. (I have not used one in mine but...)

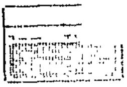
Last thing you need to do is put a little black tape under the battery. I put mine right on the board under it so that it wont have a chance to touch the board itself.

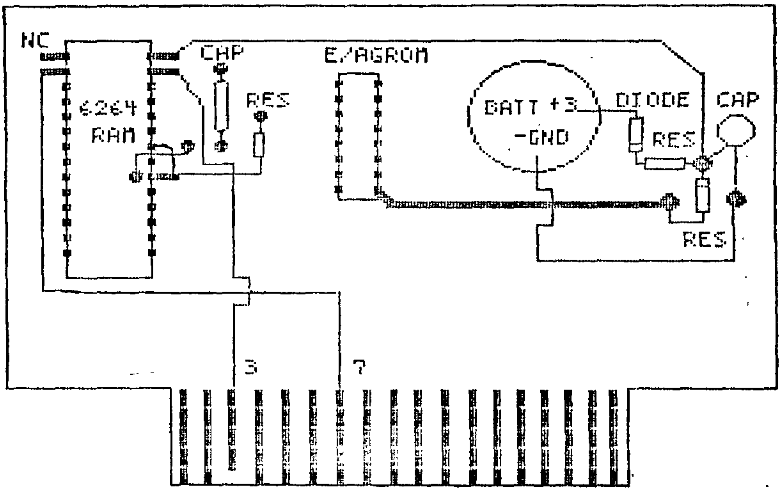
Ok put the module in the computer and run that program again. If you got 1 2 3 4 then power down, take out the module wait for about 30 seconds, put it back in and type in immediate mode in Basic:

```
CALL PEEK(24576,A,B,C,D)
PRINT A;B;C;D
```

If you got 1 2 3 4 you made it and you now have a working Super Cart. 'course if not, just recheck battery circuit.

Good luck with this project, its fun and rewarding, but remember as always if something goes wrong you have no idea where you read this or who wrote it.





40 COLUMN BY 24 LINES FOR THE 99/4A
AND IN EXTENDED BASIC NO LESS

From the COMPUTER BRIDGE (December 1984) comes this beauty. Our thanks to Dr. Roy T. Tamashiro, Ed. D. for a great program.

I have often wanted to use a 40-column screen in a BASIC program because you can put 43 percent more text on it than on the normal 28-column screen in Basic. However, the 40-column screen is not available in TI-BASIC or EXTENDED BASIC, even though this 40-column screen is present in the TI-99/4A ROM. The program below makes it possible to create and implement programs in EXTENDED BASIC on the 40-column screen. The 32-K Memory Expansion, the EXTENDED BASIC cartridge, and a cassette or disk system are required. To access the 40-column screen, type in and save the program "FORTY-COLUMN TEXT SCREEN FOR X-BASIC" (below, on disk or cassette.) Then compose your program for the 40-column screen.

To turn on the 40-column screen in your program, use the instruction, CALL LINK("FORTY"). You may use most of the normal EXTENDED BASIC instructions, but make the following substitutions:

EXTENDED BASIC INSTRUCTION:	REPLACE WITH THIS FORMAT:
CALL CLEAR	CALL LINK("CLS")
INPUT,LINPUT,or ACCEPT AT	CALL LINK("INPUT",ROW(1-24),COL(1-40),STRING VAR)
PRINT or DISPLAY AT	CALL LINK("DISPL",ROW(1-24),COL(1-40),STRING VAR)
CALL COLOR, CALL SCREEN	CALL COLORS(Foreground,Background)

(If you wish to change the colors of the characters on the screen, add lines 16000 to 16020 in the SAMPLE PROGRAM to your program as the last routine in your program. This makes it possible to use the above CALL COLORS(Foreground,Background) instruction. Use the color codes(1-16) normally used in BASIC to designate foreground and background colors. See example in the "SAMPLE PROGRAM".)

Do not use SPRITE instructions (CALL SPRITE, CALL MAGNIFY, CALL COINC, etc.) on the 40-column screen. Other instructions such as CALL HCHAR and CALL GCHAR work, but since they are oriented to the 32-column screen rather than the 40-column screen, the locations are confusing.

To switch back to the normal 32-column screen in EXTENDED BASIC, use the instructions, CALL LINK("BSCRN"). Be sure to include this CALL LINK when you exit the EXTENDED BASIC program-- otherwise your program will not be visible on the screen. (See line 200 in the "SAMPLE PROGRAM".)

Note that the new INPUT and DISPLAY instructions use string variables only. Thus, numeric variables must be converted before or after these CALLs. For example, to DISPLAY a numeric variable, use the following model:

```
210 N=1::N$=STR$(N)::CALL LINK("DISPL",24,1,N$)
```

(In this example, the value in N, which is 1, is converted to the string variable N$ and displayed at row 24, column 1.)

Or, to INPUT a numeric variable:

```
230 CALL LINK("INPUT",24,1,N$)::N=VAL(N$)
```

(In this example, a number is accepted at row 24, column 1 and assigned to N.)

To RUN your program, first load and RUN the program ("FORTY-COLUMN TEXT SCREEN FOR X-BASIC"), then load and RUN your program. As long as you do not use CALL INIT or load another Assembly Language program, you can run your program without re-RUNning the "FORTY-COLUMN TEXT" program.

```
100 !************************
110 !* FORTY-COLUMN TEXT  *
120 !* SCREEN FOR X-BASIC *
130 !************************
140 !AUTHOR: ROY T. TAMASHIR
O, ED.D
150 !DECEMBER 1984,X-BASIC W
/ MEMORY EXPANSION
155 ! FIRST LOAD AND RUN THI
S PROGRAM. THEN LOAD AND RUN
YOUR PROGRAM.
160 ! AS LONG AS YOU DO NOT
DO A 'CALL INIT' OR LOAD AN
'ASSEMBLY',
165 ! YOU CAN RUN YOUR PROGR
AM WITHOUT RERUNNING THIS ON
E..
170 CALL INIT
180 CALL LOAD(8196,63,216)::
CALL LOAD(16344,66,83,67,82,
78,32,50,108,68,73,83,80,76,
32,48,190)
190 CALL LOAD(16360,73,78,80
,85,84,32,49,36,67,76,83,32,
32,32,48,78,70,79,82,84,89,3
2,48,38)
200 CALL LOAD(12288,8,31,16,
0,50,190,0,0,0,0,1,108,51,18
8,0,0,0,0,0,0,2,12,50,116)
210 CALL LOAD(12312,215,32,4
7,190,215,32,47,191,13,0,1,1
08,2,107,2,224,131,224,2,1,2
40,129,216,1)
220 CALL LOAD(12336,131,212,
216,1,140,2,6,193,216,1,140,
2,2,1,245,135,216,1,140,2,6,
193,216,1)
230 CALL LOAD(12360,140,2,4,
96,48,86,2,224,48,0,6,160,48
,98,4,224,131,124,2,224,131,
224,4,96)
240 CALL LOAD(12384,0,112,4,
192,2,1,128,0,4,32,32,32,5,1
28,2,128,3,192,22,250,4,91,2
,1)
250 CALL LOAD(12408,0,1,4,19
2,4,32,32,12,200,32,131,74,4
8,36,192,224,48,36,2,67,0,25
5,2,2)
260 CALL LOAD(12432,255,216,
2,34,0,40,6,3,22,252,200,2,4
8,34,2,1,0,2,4,192,4,32,32,1
2)
270 CALL LOAD(12456,200,32,1
31,74,48,36,192,96,48,36,2,6
5,0,255,6,1,168,1,48,34,4,91
,2,224)
280 CALL LOAD(12480,48,0,6,1
60,48,118,2,1,255,0,216,1,50
,189,2,1,0,3,4,192,2,2,50,18
9)
290 CALL LOAD(12504,4,32,32,
20,4,197,209,96,50,189,6,197
,2,6,50,190,192,32,48,34,6,1
60,49,28)
300 CALL LOAD(12528,4,193,19
2,86,2,33,96,0,4,32,32,32,5,
128,6,160,49,28,6,5,19,9,6,1
93)
310 CALL LOAD(12552,2,33,96,
0,4,32,32,32,5,198,5,128,6,5
,22,236,4,96,48,86,2,128,3,1
92)
320 CALL LOAD(12576,21,251,4
,91,2,224,48,0,2,2,1,0,2,1,3
2,0,216,129,50,190,6,2,22,25
2)
330 CALL LOAD(12600,6,160,48
,118,2,1,0,255,192,32,48,34,
160,64,2,129,3,192,18,2,2,1,
3,192)
340 CALL LOAD(12624,200,1,48
,36,4,196,193,64,2,1,32,0,21
7,1,50,191,2,1,126,0,4,32,32
,32)
350 CALL LOAD(12648,2,1,5,0,
216,1,131,116,6,160,50,34,21
6,32,131,117,48,32,4,193,208
,96,131,117)
360 CALL LOAD(12672,192,5,2,
129,13,0,22,18,2,1,128,0,4,3
2,32,32,4,224,131,124,4,192,
2,1)
370 CALL LOAD(12696,0,3,6,19
6,216,4,50,190,2,2,50,190,4,
32,32,16,4,96,48,86,2,129,7,
0)
380 CALL LOAD(12720,22,13,2,
1,32,0,217,1,50,191,2,33,96,
0,4,32,32,32,6,0,6,4,22,245)
390 CALL LOAD(12744,4,96,49,
36,2,129,8,0,22,17,2,1,32,0,
217,1,50,191,2,33,96,0,4,32)
400 CALL LOAD(12768,32,32,6,
0,6,4,128,32,48,34,18,181,5,
132,5,128,4,96,49,86,2,129,9
,0)
410 CALL LOAD(12792,22,2,2,1
,32,0,2,129,32,0,17,169,217,
1,50,191,2,33,96,0,4,32,32,3
```

```
2)
420 CALL LOAD(12816,5,132,5,
128,136,0,48,36,18,158,6,0,6
,4,4,96,49,86,4,193,2,0,32,0
)
430 CALL LOAD(12840,2,2,255,
0,4,32,32,28,144,32,131,124,
19,26,144,160,131,117,19,243
,2,3,0,5)
440 CALL LOAD(12864,6,3,2,1,
9,192,6,1,22,254,4,32,32,28,
144,32,131,124,19,11,144,160
,131,117)
450 CALL LOAD(12888,19,228,4
,32,32,28,192,195,22,239,152
,32,48,32,131,117,22,220,4,9
1,2,224,48,0)
460 CALL LOAD(12912,6,160,48
,98,2,0,3,0,4,193,4,32,32,32
,5,128,2,128,3,192,22,250,2,
0)
470 CALL LOAD(12936,224,1,21
6,0,131,212,6,192,4,32,32,48
,2,0,3,32,4,32,32,48,2,0,7,2
3)
480 CALL LOAD(12960,4,32,32,
48,2,0,8,0,2,1,16,0,4,32,32,
32,5,128,2,129,8,31,22,250)
490 CALL LOAD(12984,4,96,48,
86,0,255,0,32,32)
```

```
100 REM *SAMPLE PROGRAM*
110 CALL LINK("FORTY")
120 CALL LINK("CLS"):: CALL LINK("DISPL",1,15,"HELLO THERE")
130 CALL LINK("DISPL",10,1,"Foreground Color--Enter 1-16:")
140 CALL LINK("INPUT",10,35,F$):: F=VAL(F$)
150 CALL LINK("DISPL",12,1,"Background Color--Enter 1-16:")
160 CALL LINK("INPUT",12,35,B$):: B=VAL(B$)
170 CALL COLORS(F,B)
180 CALL LINK("DISPL",23,1,"Enter <1> to go on; or <2> to exit;")
190 CALL LINK("INPUT",23,38,K$):: IF K$="1" THEN 120
200 CALL LINK("BSCRN"):: END
16000 SUB COLORS(F,B)
16010 CALL LOAD(12350,16*(F-1)+(B-1)):: CALL LINK("FORTY")
16020 SUBEND
```

THE FAST 99/4A

By Mark Harms
From Peter Machule-Vancover B.C.

Here's a neat little modification that will speed up your console by about 19 percent.

Go out and get a 14.318 Mhz crystal, a single pole double through switch, and three pieces of wire about six inches long.

Find the 12 Mhz crystal on the circuit board inside your console. Unsolder one of the leads and replace it wiht one of the 3 inch wires that you have. Solder the other end of it to the center connection of the switch.

Solder another wire to the 12 Mhz crystal and the board connection. The other end of this one goes to one end of the 14.318Mhz crystal.

Solder the other wire to the other end of the 14.3 crystal and connect it to one side of the swich. Connect the other end of the switch to the remining lead of the 12Mhz crystal and your ready fo the test.

Take a look at the diagram below, and make sure that you have all the connections correct.

```
  12Mhz      SP/DT      14.318Mhz.
 /----\      SWITCH      /----\
 ¦    ¦       <¦>        ¦    ¦
 ¦    ¦        ¦         ¦    ¦
 ¦----¦     -------      ¦----¦
  ¦  ¦      ¦  ¦  ¦       ¦  ¦
  ¦  \-----/   ¦  \------/   ¦
  ¦          TO PC           ¦
  ¦          BOARD           ¦
  ¦            ¦             ¦
  \--------------------------/
```

The diagram better explains the circuit. The switch can be mounted in the cooling vent on the top of the console.

It seems that you can switch back and forth between crystals while a Basic program is running.

FILEREADER

```
10 REM ** Program: FILEREAD
20 REM ** (Printer MANDATORY)
30 REM 05-03-85 Rel 1.0
40 REM Author: Jerry Novak
50 CALL CLEAR
60 DISPLAY AT(2,4):"Utility
 FILEREAD: "
70 DISPLAY AT(4,7):"File rea
der for ANY file"
80 DISPLAY AT(6,4):"(EXCEPT
Basic Pgms)"
90 DISPLAY AT(8,4):"(Printer
 MANDATORY)"
100 DISPLAY AT(11,13):"By":T
AB(9);"J. Novak 5-3-85 R1"
110 DISPLAY AT(19,6):"-THE F
ILE MUST NOT-"
120 DISPLAY AT(20,9):"-BE PR
OTECTED-"
130 DISPLAY AT(24,1)BEEP:"Pr
ess any Key to Continue"
140 CALL KEY(0,K,N):: IF N=0
 THEN 140 :: CALL CLEAR
150 PRINT "Place Disk in Dri
ve 1": :: INPUT "Enter only
 Filename(IN CAPS)":A$
160 ON ERROR 170 :: OPEN #1:
"DSK1."&A$,INPUT ,DISPLAY ,
VARIABLE 80 :: GOTO 270
170 ON ERROR 180 :: OPEN #1:
"DSK1."&A$,INPUT ,DISPLAY ,
VARIABLE 163 :: GOTO 280
180 ON ERROR 260 :: OPEN #1:
"DSK1."&A$,INPUT ,DISPLAY ,
VARIABLE 254 :: GOTO 290
~~190 ON ERROR 200 :: OPEN #1:~~
"DSK1."&A$,INPUT ,FIXED ::
GOTO 300
200 ON ERROR 210 :: OPEN #1:
"DSK1."&A$,INPUT ,FIXED 163
:: GOTO 310
210 ON ERROR 220 :: OPEN #1:
"DSK1."&A$,INPUT ,FIXED 254
:: GOTO 320
220 ON ERROR 230 :: OPEN #1:
"DSK1."&A$,INPUT ,FIXED 255
:: GOTO 330
230 ON ERROR 240 :: OPEN #1:
"DSK1."&A$,INPUT ,INTERNAL,
VARIABLE 80 :: GOTO 350
240 ON ERROR 250 :: OPEN #1:
"DSK1."&A$,INPUT ,INTERNAL,
VARIABLE 163 :: GOTO 350
250 ON ERROR 260 :: OPEN #1:
"DSK1."&A$,INPUT ,INTERNAL,
VARIABLE 254 :: GOTO 350
260 PRINT "SORRY-This is a p
rogram file -OR- File not Fo
und" :: GOTO 150
270 PRINT "->DISPLAY,VARIABL
E 80" :: GOTO 350
280 PRINT "->DISPLAY,VARIABL
E 163" :: GOTO 350
290 PRINT "->DISPLAY,VARIABL
E 254" :: GOTO 350
300 PRINT "->DISPLAY,FIXED 8
0" :: GOTO 350
310 PRINT "->DISPLAY,FIXED 1
63" :: GOTO 350
320 PRINT "->DISPLAY,FIXED 2
54" :: GOTO 350
330 PRINT "->DISPLAY,FIXED 2
55"
340 REM *Or, set tc RS232/8
350 OPEN #2:"PIO",OUTPUT
360 LINPUT #1:X$
370 PRINT X$
380 PRINT #2:X$
390 IF EOF(1)<>1 THEN 360
400 CLOSE #1 :: CLOSE #2
```

FROM THE CHICAGO TI USER'S GROUP LIBRARY.

```
1 GOTO 48
48 RESTORE 169
49 RANDOMIZE
50 CJHL$="23110907"
51 DIM Q(16)
52 CALL CLEAR
53 CALL CHAR(104,"FFFF")
54 CALL SCREEN(10)
55 CALL HCHAR(2,1,104,160)
56 CALL HCHAR(19,1,104,160)
57 X=3
58 Y=5
59 CALL CHAR(112,"FFFFFFFFFF
FFFFFF")
60 CALL CHAR(120,"FFFFFFFFFF
FFFFFF")
61 FOR Z=1 TO 16
62 READ Q(Z)
63 CALL COLOR(11,Y,Y)
64 CALL COLOR(12,X,X)
65 CALL HCHAR(10,5,112,22)
66 CALL HCHAR(14,5,120,22)
67 CALL HCHAR(12,Z+7,Q(Z))
68 CALL HCHAR(8,2*Z-1,62,2)
69 CALL SOUND(100,-2,2)
70 CALL HCHAR(16,33-2*Z,60,2
)
71 CALL COLOR(11,X,X)
72 CALL COLOR(12,Y,Y)
73 NEXT Z
74 FOR B=1 TO 500
75 NEXT B
77 I=200
78 T=400
79 H=600
80 W=1200
81 S=100
82 FOR B=1 TO 500
83 NEXT B
84 WARN=0
```

```
85 GOSUB 170
86 FOR B=1 TO 355
87 NEXT B
88 GOSUB 170
89 FOR B=1 TO 355
90 NEXT B
91 CALL SOUND(S,233,10,156,1
0)
92 CALL SOUND(I,220,7,147,7)
93 GOSUB 223
94 CJ$=SEG$(CJHL$,1,4)
95 FOR B=1 TO 30
96 NEXT B
97 CALL SOUND(S,208,10,139,1
0)
98 CALL SOUND(1250,196,7,131
,7)
99 GOSUB 223
100 FOR B=1 TO 355
101 NEXT B
102 GOSUB 170
103 FOR B=1 TO 455
104 NEXT B
105 GOSUB 178
106 CALL SOUNO(S,659,2,233,1
0,156,10)
107 CALL SOUND(S,784,1,220,7
,147,7)
108 GOSUB 223
109 FOR B=1 TO 30
110 NEXT B
111 CALL SOUND(S,98B,2,208,1
0,139,10)
112 CALL SOUND(H,932,1,196,7
,131,7)
113 HL$=SEG$(CJHL$,5,4)
114 CALL SOUND(S,932,2)
115 CALL SOUND(S,880,2)
116 CALL SOUND(S,784,2)
117 CALL SOUND(S,659,2)
```

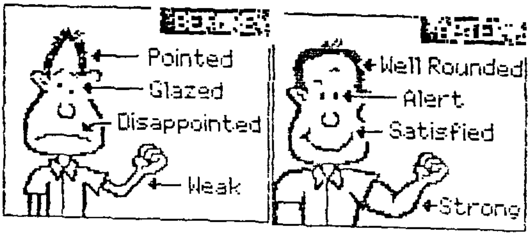
```
118 CALL SOUND(S,587,2)
119 CALL SOUND(790,659,1)
120 GOSUB 223
121 IF GOO=704 THEN 136
122 GOO=704
123 GOSUB 170
124 GOSUB 178
125 CALL SOUND(S,784,2,220,1
0,147,10)
126 CALL SOUND(S,988,1,233,7
,156,7)
127 GOSUB 223
128 FOR B=1 TO 30
129 NEXT B
130 CALL SOUND(S,1319,2,247,
10,165,10)
131 CALL SOUND(1500,1245,1,2
62,2,175,2)
132 GOSUB 170
133 H$=SEG$(HL$,1,2)
134 GOSUB 178
135 GOTO 106
136 GOSUB 170
137 G=I+S
138 CALL SOUND(G,1319,1)
139 CALL SOUND(S,1175,3)
140 CALL SOUND(G,988,1)
141 C$=SEG$(CJ$,1,2)
142 CALL SOUND(S,880,3)
143 CALL SOUND(G,784,1)
144 CALL SOUND(S,659,3)
145 FOR NANOO=1 TO 4
146 CALL SOUND(S,932,2)
147 CALL SOUND(G,880,1)
148 NEXT NANOO
149 FOR SHAZBOT=1 TO 3
150 A=200
151 GOSUB 205
152 NEXT SHAZBOT
153 IF ZIP=1 THEN 157
154 ZIP=1
155 GOO=0
156 GOTO 105
157 CALL SOUND(H,330,17)
158 CALL SOUND(H,247,20)
159 CALL SOUND(H,165,25)
160 CALL SCREEN(16)
161 CALL SOUND(2000,740,1,58
7,1,392,1)
162 FOR X=6 TO 14
163 CALL COLOR(X,10,1)
164 NEXT X
165 L$=SEG$(HL$,3,2)
166 CALL KEY(0,X,Y)
167 IF Y=0 THEN 166
168 END
```

MEMBERSHIP RENEWALS

The following people are due to renew their membership. Renewals are $7.50 per year. You can renew at our general meeting or send it to our P.O. box. Please make checks payable to Beverly Cook. If your renewal date is March, April or May, this is the last newsletter you will receive.

Chris Kurtenback	3-86
Doug Sellers	3-86
Steve Bell	4-86
Marilyn Brusherd	6-86
Jeannine Allen	6-86
Al Johnson	6-86
Bruce Shearer	6-86
George Lempeotis	6-86
Beverly Cook	6-86

COMPUTER LITERACY



LEARN MORE AT THE NEXT USER'S MEETING!