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**THE HUGgers**  
**HOOSIER USERS GROUP**  
 People Helping People

February 1991

THE HUGgers NEWLETTER

Volume 10, Number 2

### MEETING REMINDER

By - Darla Wright

The January meeting was quite different than anticipated. There were stragglers all afternoon until time for us to pack up & leave. If this was a plot to keep from being nominated & elected to a HUG office for 1991, it was successful. There weren't even enough members to draw for the door prize at the start of the meeting. We did have a drawing before we left and GREG LARSON was the winner of a heavy duty 5 1/4 in diskette storage file.

There was NO BUSSINESS conducted for lack of attendees. The time was spent exploring the possibilities of a HORIZON ram disk & comparison of a ram disk to a hard disk. It was decided a Horizon was within every Tier's budget, as it can be bought as a kit and all parts need not be purchased at one time. A Horizon makes possible instantaneous access to several MENU selectable programs. You can even use a Word Processor without needing a floppy disk for the editor or formatter to load from. It was also proclaimed a winner at TELCO file accesses. Older versions of the Horizon can usually be bought from a former owner at a reasonable price, considering that it has been thoroughly "tested" and it is ready to use.

Which brings me to the REAL purpose of this column...ELECTIONS WILL BE HELD AT THE FEBRUARY MEETING!! IF you would like to have more of a voice in the direction and functioning of YOUR user group,

call any of the current officers, or see us before the meeting, so your name can be put in nomination. Those phone numbers appear elsewhere in this newsletter.

In case you didn't know.....  
 February is our first Annual

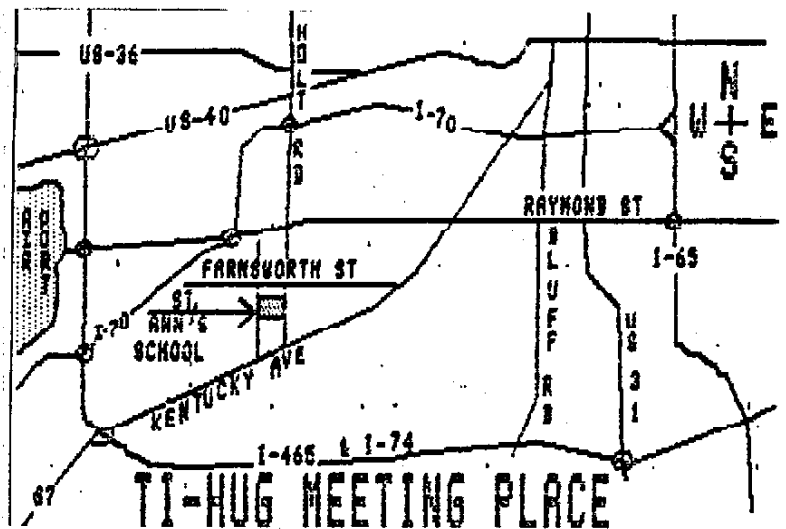
### EQUIPMENT SWAP MEET

Bring your "STUFF" and sell it or trade with other members. Your "STUFF" can be anything you feel you can give up, or have outgrown. It does not necessarily have to be TI compatible. If you think there might be some interested in "OTHER STUFF", such as HAM "STUFF" feel free to bring it.

FEBRUARY 10, 1991

2:00 PM

\*\*\*\*\*SEE YOU AT THE MEETING\*\*\*\*\*



## HOW TO DO A PERSON TO PERSON DOWNLOAD.

by: Jeff Overton

How many times have you wished that you could get a copy of a program from someone? You could go to their home and make a copy, or you could just wait until the next HUG meeting. But what if you needed that program yesterday?

If you own a modem you can get the program that you need in a matter of minutes. You call the BBS and get programs all the time. Why not call a friend and get the program that you want? I know you're thinking, "I have tried before and it didn't work." Well I also tried it before and it didn't work, but this time it did.

I will try to take you through step by step how it is done using TELCO 2.3 .

The first thing you must do is call your friend.(on voice) and tell them what you want to do. Tell your friend what program you want. If that program has more than one file your friend should archive it, or you will have to transmit the files one at a time.

Each of you must set your terminal to HALF Duplex. If you don't do this neither of you will be able to see what you are typing. FULL Duplex sends or "echos" the recieved characters BACK to the sender only if the recieving terminal "remote echo "is set on. Let me assure you this not a good choice!! To go to HALF Duplex, you will press "fctn N" from the terminal screen, or use the Setup Terminal option screen & select option "I".

It is also a good idea to make your Setup Terminal option "C" a CR/LF. Doing this will make your text automaticly advance a line at end of your line width, or every time you hit "ENTER". This is a good way to signal the other user that you are through sending text. Hit enter two or three times & your text will roll up that many lines.

One of you will have to put your modem in Auto-Answer. To set a Hayes compatible modem to Auto-Answer, type "ATSO=1".

This will answer on the first ring. The modem will return non Auto-Answer after it is powered off.

You now hang up & whoever is NOT in Auto-Answer calls the other modem. When his computer answers, you will see on your screen "CONNECT" or "CONNECT 1200" or "CONNECT 2400" (depending on your baud rate). This is just like the way that you call the BBS.

Now you can talk to each other with the keyboards and display screens.

If you are to receive the file, you must press "fctn 4" to select a transfer protocol. Both computers must be using the same protocol (Xmodem or Ymodem) and this should have already been agreed upon. In our tests Ymodem is about three times as fast as Xmodem. On paper it should be 8 times as fast as Xmodem transfers 128 bytes at a time and Ymodem transfers 1024.

The person sending you the file must press "fctn 6" and select a transfer protocol. The sender must then enter the file name exactly as it is stored on disk. However the reciever can name the file to be recieved anything, as long as it follows TI disk file header rules. (not more than 10 characters, no blanks or periods—You know the rules.) Just type in the file name and it's automatic from then on.

I am sorry to say, if neither of you have Auto-Answer I don't know how it will work. If only one has Auto-Answer it will still work.

With a little practice this will become as easy as file transfers to a BBS.

The Windy City 99 Club

3.5" 720K Disk Drive

By: Michael G. Mickelsen

How would you like to have a 3.5 inch disk drive connected to your TI? Well, now you can with Radio Shack offering their Tandy 1000 EX 3.5 720K external disk drive for only \$99.95.

All the parts you need can be purchased from your local Radio Shack store. Here is the complete list:

25-1061	External 3.5 inch disk drive	\$99.95
276-1525	34 position computer connector	\$2.49
277-1022	Plug in 3-output DC power supply	\$4.95
277-1016	Switching power supply chassis	\$4.95

The only part needed from the switching power supply chassis is the three wire connector. If you have changed out your old power supply in the console, you can remove the connector from the old power supply. There are three wires on this connector. The red wire is the only one that needs to be moved. It is located on the second pin. Just break it off and solder it to the first pin. The fourth pin has a black wire which is common. The third wire is white and is the 12 volt line. The new red location is the 5 volt line.

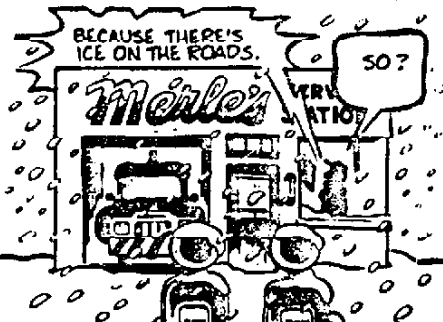
Now that you have the power supply completed, the next step is to disassemble the disk drive case. You will find a small printed circuit board inside. The power supply, three-wire connector will be soldered at the point where the power wires go from the circuit board to the disk drive.

Disconnect the ribbon cable from the disk drive which is attached to the circuit board. You may want to use this connector instead of purchasing the part listed above. The connector is press-fitted to the ribbon cable. Add this connector to the end of your existing expander ribbon cable then attach it to the disk drive.

When reassembling the disk drive, you may place the connector for the power supply inside the disk drive. I have mine on the outside for ease of replacing the power supply if needed.

The complete project only took me one hour. The drive is so quiet you may not think it is formatting. I currently have mine connected to a Myarc hard drive controller. It can be formatted to 720K and have up to three subdirectories.

GETCH



By Jerry Bittle

# BUSINESS GRAPHS 99

## A REVIEW

By - Dale Kaliser

Being in management of a major insurance company, I'm always asked for reports comparing production from month to month and even year to year. To assist in my comparisons, I have always felt that utilizing charts can be most informative to the reader since in many ways they speak for themselves.

Until recently I have been using such programs as Draw N Plot and Chart Maker, both from Quality 99 Software. I then came across what I feel to be the best overall business graphics program entitled "Business Graphs 99" written by Mike McCane and distributed by Disk Only Software for \$24.95.

The 26 page booklet is highly professional in both contents and layout which kept my attention throughout the reading produces Pie Charts, Bar Graphs and Line Graphs which seems to be the normal contents of a sophisticated business graphics program. But what I like is that the program is menu driven, fast, versatile, highly professional and all options can be dumped to a printer. System requirements are: TI 99/4A, 32K, Disk Drive, Editor Assembler or Extended Basic. Optional equipment: RS232 and Printer.

Four default settings may be set up by the user for convenience. You may set the default background and foreground colors, setup default output device and micro-linefeed may be changed to accommodate your particular printer. The defaults are saved to the program disk for automatic loading upon booting of the program.

The Pie Graph allows for individual labeling of slices from 2-6, the title of the graph is displayed above the graph with a subtitle below the graph. For use on a color monitor, there are 15 colors available and 7 different B/W shadings for printouts. All are displayed on the screen for selection by

number. In addition, one of the Pie slices may be "Exploded" away from the rest of the pie. This comes in handy when illustrating the largest or smallest part of a comparison.

In order to adjust for the fact that each printer does not draw exact circles, the program has a feature called "Aspect Ratio" which allows you to adjust for the fact that a circle drawn on the screen or in the RAM looks like a football on the printer.

The next type of graph available is a Line Graph. The Line Graph option begins by asking for a title above the graph, subtitle below, horizontal axis title and vertical axis title. Next you are prompted for the vertical range or upper and lower boundaries of the display (1-500). Horizontal Display ranges from 0-10 and Horizontal Display Density controls proportional spacing between display items on the grid.

Once the data is entered, you have the option to draw or print four types of Line Graphs: HiLo, Line, Area and Grid On/Off. To briefly explain each, I'll begin with HiLo. The HiLo plots a vertical line for each data element in range, plotting vertically between MIN and MAX values. Line Plot will plot a line from MAX of one data item to MAX in the next and from MIN to MIN for all data items. Area Plot combines both Line and HiLo. Grid On/Off lets you turn on or off the grid lines.

The last type of graph is the Bar Graph. Once again you are prompted for a title above the graph, subtitle below, horizontal axis title and vertical axis title. Then you are prompted for the edit ranges very similar to the Line graph options. Next you enter the data for each bar. The Draw Graph option allows for drawing three types of Bar Graphs: Single Bar which plots a single bar for each data item with six shades of printing available, again displayed on the screen. The next option is to draw Stacked Bars which plots a bar for the MIN value then plots the difference between MAX and MIN as another bar stacked on top of the first. The last option is a Double Bar which plots a

(CONTINUED ON PAGE 8)

# PERFECT COLUMNIZER

"ABOUT 2COLUMNS" BY ROGER PRICE

I HAVE WANTED TO SUBMIT AN ARTICLE FOR THE NEWSLETTER EACH MONTH. HOWEVER, IT SEEMS AS IF THE TIME GOES AND OTHER THINGS INTERFER TO SUCH AN EXTENT THAT I SEEM TO MISS THE DEADLINE OFTEN. I SOMETIMES THINK I WILL DO AN ARTICLE ON A SUBJECT. THEN I GET THE MATERIAL FOR THE ARTICLE ONLY TO CHANGE MY MIND BEFORE I GET THE TEXT TYPED. I WAS GOING TO DO AN ARTICLE ON A PROGRAM IN THE NOVEMBER 1990 HUG NEWSLETTER CALLED "2COLUMNS". IF ANYONE KNOWS HOW TO SET UP THE FILE TO GET THIS TO WORK, DO AN ARTICLE IN THE NEWSLETTER SO THAT I AND OTHERS CAN GET IT TO WORK. I SPENT AT LEAST FIVE HOURS OVER SEVERAL DAYS TO GET "2 COLUMNS" TO WORK. I RAN OUT OF IDEAS ON WHAT I WAS DOING WRONG. I HAVE USED THE COLUMNIZER IN PAGEPRO WITH SUCCESS, HOWEVER, YOU ARE LIMITED TO 29 CHARACTERS PER COLUMN. I WANTED A COLUMNIZER THAT WOULD DO AT LEAST 38 CHARACTERS PER COLUMN.

"PERFECT COLUMNIZER"

THIS IS A PUBLIC DOMAIN PROGRAM AND SHOULD BE IN THE HUG LIBRARY IF IT IS NOT. WHAT I WOULD LIKE IS A DISK FULL OF THE VARIOUS COLUMNIZER PROGRAMS THAT ARE IN THE PUBLIC DOMAIN. THE INSTRUCTIONS SHOULD BE ON THE DISK ALSO TO RUN THE PROGRAMS PROPERLY. I WILL TRY TO GET THE INSTRUCTIONS FOR THIS ONE ONTO THE DISK AND DONATE IT TO THE LIBRARY THE NEXT TIME I GO TO THE MEETING. I AM USING A TI-WRITER TYPE PROGRAM TO TYPE THIS AND AM USING THE "PERFECT COLUMNIZER" TO PUT IT INTO 2 COLUMNS FOR THE NEWSLETTER. MY PLAN IS TO GET THIS INTO THE 2 COLUMNS THEN SEE HOW MANY LINES IT IS. WHAT SPACE IS LEFT I WILL PUT SOME GRAFICS IN WITH PAGE PRO SO IT MIGHT BE A TWO RUN PRINTING. SINCE PAGEPRO HAS THE LINES NUMBERED IT WILL BE EASY TO WORK THIS OUT. THE PERFECT COLUMNIZER LOOKS AS IF IT PRINTS WITH AN 11 OR 12 SPACING. I WILL TRY TO ALTER THE PROGRAM AND THEN HAVE A VERSION THAT WILL PRINT MORE LINES ON A PAGE. THE DEFAULT IS 60 LINES TO THE PAGE WHICH WOULD BE A 40 COLUMN

FILE OF 120 LINES. THIS WOULD GIVE SPACE FOR A BORDER OR HEADLINE PRINTOUT WITH PAGEPRO. ONE OF THE FEATURES OF "PERFECT C" IS THAT YOU CAN PRINT A HEADER IN DOUBLE WIDTH. I FOUND THAT THIS FEATURE DOES NOT WORK WITH THE 99/4 PRINTER OR ELSE I'M NOT DOING SOMETHING RIGHT. THE REQUIREMENTS OF THE PROGRAM ARE A TI-WRITER TYPE WORD PROCESSOR, SINGLE SIDE DISK SYSTEM. THE STEP BY STEP INSTRUCTIONS REQUIRE VERY LITTLE SETUP OF THE FILE.

BASICALLY, YOU SETUP YOUR WORD PROCESSOR FOR 36-40 CHARACTERS PER COLUMN BY PUTTING YOUR LEFT MARGIN AT 0 AND YOUR RIGHT MARGIN TO 40. DO THIS BY EDIT TABS L TO 0 AND THE R TO 40. THE PROGRAM WILL JUSTIFY THE WORDS. THIS MEANS THE PROGRAM WILL FILL AND ADJUST TO GIVE A NICE STRAIGHT RIGHT SIDE WITHOUT ANY COMMANDS TO DO THIS. WHEN YOU TYPE USE WORD WRAP AND DO NOT HIT THE ENTER KEY EXCEPT AT THE END OF A PARAGRAPH. INDENT WORKS OK BUT SOMETIMES YOU GET 5 SPACE AND OTHER TIMES YOU GET UP TO 8 SPACES. THIS I BELIEVE IS DUE TO THE WAY THE FILL AND ADJUST WORKS. YOU GET TWO 40 COLUMNS WITH A 5 GUTTER IN THE MIDDLE FOR 85 COLUMNS TOTAL.

MORE THAN I HAVE EVER SEEN ON THE 99/4 PRINTER. I HAVE NEVER BEEN ABLE TO GET MORE THAN 80 COLUMNS ON MY PRINTER REGARDLESS OF KIND OF TYPE. BY PUTTING A RIGHT HAND APOSTROPHE IN FRONT OF A LINE, IT WILL BE CENTERED. BUT ONCE AGAIN THIS SEEMS TO MESS THINGS UP ELSEWHERE, SO DOES NOT WORK FOR ME. AFTER TYPING YOUR COLUMN, YOU HAVE TO PRINT IT TO DISK TO REMOVE THE CONTROL CODES, THEN RUN THE NEW FILE THRU THE PROGRAM AND SAVE IT ON DISK ONCE AGAIN. THEN RUN THIS FILE THRU THE PRINTER PORTION OF THE PROGRAM. SO YOU END UP WITH 3 FILES ON YOUR DISK. IT IS EASY TO DO THE SAME THING WITH TI-WRITER IF YOU WANT TO CUT AND TAPE. JUST USE THE CODES .RM 40;.LM 0;.FI;.AD AT THE START OF YOUR COLUMN, RUN IT THRU THE FORMATTER, PRINT AND CUT.

( CONTINUES ON PAGE 6 )

(continued from page 05  
( PERFECT COLUMNIZER )

ONE OTHER THING I HAVE NEVER SEEN IS 85 COLUMNS PRINTED IN THE SPACE OF 72 COLUMNS. WOULD SOMEONE EXPLAIN TO ME HOW THIS IS DONE? HOPEFULLY I WILL FIGURE THIS OUT. THE PRINTER CODES USED ARE IN THE EX. BASIC LISTING SO IT SHOULD BE EASY TO CHECK THEM OUT. PERHAPS THERE ARE SOME CODES THAT ARE NOT LISTED IN THE TI 99/4 PRINTER MANUEL.

I MAY BE ABLE TO LEARN A LOT FROM THIS PROGRAM. I KNOW IT HAS A GOOD 'CALL GET KEY' ROUTINE THAT I HAVE NOT SEEN.

THE THIRD FILE THAT YOU GET FROM THE PROGRAM CAN BE LOADED BACK INTO TI-WRITER AND EDITED, WITH LINES ADDED OR DELETED SO LONG AS YOU DO NOT HIT THE ENTER KEY.

I NOTICED ONCE THAT AFTER REWORKING MY 1ST FILE, PF TO THE 2ND FILE AND THEN FORMATTING ON THE THIRD FILE THAT SOME WAY THE REFORMATTED FILE HAD BEEN ADDED ON TO THE PREVIOUS FILE SAVED WITH THE SAME FILENAME. I SUGGEST THAT YOU DO NOT USE THE SAME FILENAME MORE THAN ONCE.

ALWAYS MAKE SURE THAT YOU CHECK HOW MANY LINES IN THE FILE BEFORE SAVEING SO YOU WILL KNOW WHAT TO PUT INTO THE PROGRAM. IF YOU HAVE 100 LINES, YOU USE THE NUMBER 50. THE NUMBER IS ALWAYS ONE HALF OF THE TOTAL. IF I END UP WITH AN ODD NUMBER, I JUST ADD A BLANK LINE TO THE END SO THAT IT WILL DIVIDE EVENLY. I HAVE ADDED THE INSTRUCTIONS TO THE PROGRAM SO I WILL NOT PRINT OUT THE INSTRUCTION FILE. THIS FILE WILL BE ON THE DISK IN THE LIBRARY FOR A PRINTOUT.

I AM GOING TO ADD ENOUGH BLANK LINES AT THE END OF THIS ARTICLE SO IT WILL FILL ONE SIDE OF THE PAGE COMPLETELY BEFORE PUTTING LINES ON THE OTHER SIDE WITH THE FORMATTER.

CAUTION: DO NOT HAVE MORE THAN 40 CHARACTERS IN A LINE ON YOUR FIRST START FILE. IF YOU HAVE AN OLD FILE THAT HAS LINE LENGTHS OF MORE THAN 40 CHARACTERS, JUST SELECT T FOR TABS ON THE COMMAND LINE. THEN ET FOR EDIT TABS. SET THE L AT 0 AND THE R ON THE 4 THAT MARKS 40. THEN MAKE SURE YOU ERASE THE R AT ABOUT 75 TO 80 THAT MAY NOT BE VISIBLE ON THE SCREEN. OTHERWISE YOUR CHANGE TO 40 MAY NOT BE ACCEPTED AND IT WILL STILL BE

WHERE IT WAS. PRESS 'ENTER'. PUT THE CURSER AT THE START OF THE FIRST LINE IN THE FIRST PARAGRAPH. PRESS FCTN 2 FOR 'INSERT CHARACTERS'. PRSS CTRL 2 TO END INSERT. THE PARAGRAPH SHOULD NOW BE REFORMATTED TO 40 CHARACTERS. DO THE SAME THING WITH EACH PARAGRAPH AND THIS FILE WILL BE THE SAME AS A NEW TYPED IN FILE.

I HAVE EXPERIMENTED A LITTLE AND HAVE FOUND THAT A FILE FORMATTED WITH A TI-WRITER TYPE FORMATTER MAY PRINT BUT THE SPACES BETWEEN THE LINES ARE DOUBLE (EVEN WITH LF & CR ADDED TO PRINTER). SO AFTER SOME CHECKING, HERE IS WHAT YOU MUST DO TO USE THE TI-WRITER FORMATTER. USE THE CODES .RM 40,.LM-0, .FI, .AD, .IN 5 AT THE TOP OF THE FILE ON THE FIRST 5 LINES. SAVE THE FILE. FORMATTE YOUR NEW SAVED FILE. RELOAD YOUR FORMATTED FILE INTO THE EDITOR THAT IS WITH THE EDITOR ASSEMBLER. USE THE COMMAND RS (REPLACE STRING) THEN PRESS / CTRL U, SHIFT J, CTRL U / SPACE BAR / THEN 'ENTER' THEN A FOR ALL. THIS WILL REPLACE ALL OF THE LF WITH SPACES. THEN ERASE THE FIRST 5 LINES THAT YOU PUT THE FORMATTE CODES ON. NOW IT IS READY TO PRINT.

I ALSO NOTICED THAT LINE FEEDS AT THE END OF THE LINES ARE GONE ON THE FILE THAT IS FORMATTED WITH THE PERFECT C. THE SAVE FILE FORMATTED WITH THE TI-WRITER FORMATTER HAS THE LF (LINE FEEDS) STILL AT THE END.

THIS IS A GREAT PROGRAM FOR NEWSLETTER WORK. NOW WHAT I NEED NEXT IS A SPELLL CHECKERR PROGRAM.

FOR SALE: TANDON SS FULL HEIGHT DISK DRIVE. WORKS A-1 LIKE NEW. TM-100-1 THE IBM ORIGINAL. \$25 ROGER PRICE 1015 RIVER DRIVE, MARION, IND. 46952 317-664-5545.

P.S. IF YOU EVER NEED TO INSERT A CR (CARRIAGE RETURN), DO THE FOLLOWING:

PLACE THE CURSER WHERE YOU WANT THE CARRIAGE RETURN. PRESS: CTRL U, SHIFT M, CTRL U .  
END.



```

100 CALL CLEAR
110 DISPLAY AT(10,6):"COLUMN
-1-4"
120 REM V1.4 1/12/1991
130 CALL SCREEN(12)
220 DIM D$(160)
230 RESET$=CHR$(27)&"@": N
LQ$=CHR$(27)&"x"&CHR$(1)&CHR
$(27)&"k"&CHR$(0):: ELIT
E$=CHR$(27)&"M": DWON$=CHR
$(27)&"W"&CHR$(1)
240 DWOFF$=CHR$(27)&CHR$(87)
&CHR$(0):: EMON$=CHR$(27)&"E
": EMOFF$=CHR$(27)&"F"
:: FEED$=CHR$(12):: BOLD$=C
HR$(27)&"G"
250 T=0 :: CALL CLEAR :: CAL
L SCREEN(15):: DISPLAY AT(1,
1):" Q&D FORMATTING COLU
MNIZER": By: Chris Bob
bitt"
260 LNE=0
270 DISPLAY AT(5,1):"Jump ah
ead to the print functio
n?(Y/N)": CALL GETK(C)
:: ON C GOTO 280,310
280 DISPLAY AT(5,1):"Filenam
e?": "" :: ACCEPT AT(5,11)SIZ
E(15)BEEP:B$
290 DISPLAY AT(5,1):"Pagelen
gth? 60": "" :: ACCEPT AT(5,13)S
IZE(-2)VALIDATE(DIGIT)BE
EP:PL :: IF PL>80 OR PL<1 TH
EN 290
300 GOTO 610
310 DISPLAY AT(5,1):"Pagelen
gth? 60": "" :: ACCEPT AT(5,1
3)SIZE(-2)VALIDATE(DIGIT
)BEEP:PL :: IF PL>80 OR PL<1
THEN 310
320 VBT,DEND=0 :: DISPLAY AT
(7,1):"Input:":A$: "Output:
":B$ :: ACCEPT AT(7,7)SI
ZE(15)BEEP:A$ :: IF T=0 THEN
340
330 IF A$="" THEN 610 ELSE 3
50
340 ACCEPT AT(9,8)SIZE(15)BE
EP:B$
350 DISPLAY AT(22,1):"FORMAT
TING..." :: OPEN #1:A$,DISPL
AY,VARIABLE 80,INPUT ::
OPEN #2:B$,DISPLAY,VARIABLE
80,APPEND
360 LNE=LNE+1 :: DISPLAY AT(
24,5):"LINE":LNE
370 LINPUT #1:Z$ :: IF EOF(1
)THEN DEND=1
380 IF Z$<>"": THEN 410
390 IF VBT=0 THEN VBT=1 ELSE
IF VBT=1 THEN VBT=0
400 GOTO 360
410 IF VBT=1 THEN 580
420 IF POS(Z$,"~",1)=0 THEN
450

```

```

430 C=INT((40-(LEN(Z$)*2-2)
/2):: F$=RPT$(" ",C):: D=C*2
+LEN(Z$)*2-2 :: G$=F$&RP
T$(" ",40-D)
440 Z$=F$&EMON$&DWON$&SEG$(Z
$,2,LEN(Z$))&DWOFF$&G$&EMOFF
$ :: GOTO 580
450 IF POS(Z$,"",1)=0 THEN
470
460 C=LEN(Z$):: D=INT(40-C)/
2 :: Z$=RPT$(" ",D)&SEG$(Z$,
2,C):: Z$=Z$&RPT$(" ",40
-LEN(Z$)):: GOTO 580
470 C=LEN(Z$):: IF C=40 THEN
580 ELSE IF C>40 THEN Z$=SE
G$(Z$,1,40)
480 CR=POS(Z$,CHR$(13),1)::
IF CR=0 THEN 500
490 Z$=SEG$(Z$,1,CR-1)&RPT$(
" ",40-CR+1):: GOTO 500
500 IF C=1 THEN Z$=RPT$(" ",
40):: GOTO 580
510 D=40-C :: Y$=Z$
520 IF POS(Y$,"",1)>0 THEN
540
530 Z$=Z$&RPT$(" ",40-LEN(Z$
)):: GOTO 580
540 M=1 :: FOR I=1 TO D
550 X=POS(Y$,"",M):: M=X+2
:: IF X>0 THEN 570
560 M=1 :: GOTO 550
570 U$=SEG$(Y$,1,X):: V$=SEG
$(Y$,X+1,LEN(Y$)):: Y$=U$&
"&V$": NEXT I :: Z$=SEG
$(Y$,1,40)
580 PRINT #2:Z$ :: IF DEND=0
THEN 360
590 CLOSE #2 :: CLOSE #1
600 T=T+1 :: GOTO 320
610 DISPLAY AT(11,1):"Printe
r name?": ACCEPT AT(12,1)S
IZE(28)BEEP:PN$ :: OPEN
#1:B$,DISPLAY,VARIABLE 80,I
NPUT
620 DISPLAY AT(24,1):"PRINTI
NG..." :: OPEN #2:PN$,VARIAB
LE 254
630 PRINT #2:RESET$;ELITE$;B
OLD$;NLQ$;
640 FOR I=1 TO PL*2 :: LINPU
T #1:D$(I):: IF EOF(1)THEN 6
70
650 DISPLAY AT(22,5):"LINE":
I+1
660 NEXT I :: GOTO 720
670 CLOSE #1 :: IF I>PL THEN
690
680 FOR J=1 TO I :: PRINT #2
:D$(J):: NEXT J :: GOTO 740
690 FOR J=1 TO PL :: C=40-LE
N(D$(J)):: IF POS(D$(J),DWON
$,1)=0 THEN S$=RPT$(" ",
C+5)ELSE S$=""
700 IF PL+J>I THEN LINE$=D$(
J)ELSE LINE$=D$(J)&S$&D$(J+P
L)

```

```

710 PRINT #2:LINE$ :: NEXT J
  :: GOTO 740
720 FOR J=1 TO PL :: C=40-LE
N(D$(J)):: IF POS(D$(J),DWON
$,1)=0 THEN S$=RPT$(" ",
C+5)ELSE S$=" "
730 PRINT #2:D$(J)&S$&D$(PL+
J):: NEXT J :: PRINT #2:FEED
$ :: GOTO 640
740 PRINT #2:FEED$ :: CLOSE
#2
750 DISPLAY AT(24,1):"Delete
file? (Y/N)" :: CALL GETK(C
):: ON C GOTO 760,770
760 DELETE B#
770 CALL SAY("START AGAIN")
780 DISPLAY AT(24,1):"Again?
(Y/N)" :: CALL GETK(C):: ON
C GOTO 790,800
790 GOTO 250
800 STOP
810 !TAKES A 40-COLUMN WIDTH
FILEAND JUSTIFIES IT FULLY
(NOT PROPORTIONAL) AND T
HEN PRINTS IT IN 2 COLU
MNS."
820 !IS DESIGNED FOR USE WIT
H AN EPSON COMPATIBLE. CHANG
E CODES IN LINES 230-
240 FOR OTHERS."
830 !ALSO ACCEPTS THE FOLLO
WING EMBEDDED COMMANDS:"
840 !USE THE ~ BEFORE LINES
THAT YOU WANT ENLARGED AND I
N BOLD FACE (GREAT FO
R TITLING!)"
850 !USE ! TO TOGGLE BETWEEN
VERBATIM PRINT AND NOT.
"
860 !USE ^ ON LINES YOU WANT
CENTERED."
870 !PLACE A CARRIAGE RETURN
TO MARK THE END OF A PARAG
RAPH."
880 !BY CHRIS BOBBITT
PUBLIC DOMAIN - NO DONA
TION REQUESTED."
940 SUB GETK(C)
950 CALL KEY(O,K,S):: IF S=0
THEN 950 ELSE K$=CHR$(K)
960 C=POS("YN",K$,1):: IF C=
0 THEN 950
970 SUBEND

```

pair of bars side by side representing the MAX and MIN values for each data item. The Double Bar type is very good for comparing one year to another.

Each type of chart option in the program may be saved to disk and can be easily accessed using the disk directory option of the main menu.

For my personal use, "Business Graphs 99" fits my needs but due to its wide range of options, it may not be for everyone. The program is copyrighted and may not be distributed through the Fairware concept but the program is not copy proof since I made a copy for my daily use.

You can look for a demo within the next few months.

### ALASKA UG PRESIDENT ARRIVES TO TAKE CHARGE

By GREG LARSON

The Clark arctic expedition has successfully reached Palmer Alaska (without even succumbing to cannibalism)!

They arrived safe and sound Friday afternoon with nary a scratch (miraculously) although the vehicles suffered many casualties during the long campaign. Fortunately, they all returned to duty in order to finish the trip, but they still have dents and bruises.

With the Clark family more or less back together (Amanda's at college), now they have to figure out where to put ALL THAT STUFF.

p.s., Steve Moon said he fully expected someone to be killed or injured on the way, but then he got to see all those thousand foot drops into rivers and lakes (without guardrails) from snowy, slippery roads.



by M. William Lutholtz

"Are you seriously recommending that I buy my kids a computer that hasn't been made in almost four years?"

I got that question from a friend who read the first "Kid's Stuff" column (ICP, Oct. 1988) and saw my mention of the TI 99/4A as a good, low-priced machine for getting kids started with computers.

"But I thought they stopped making those little TI's back in '84, didn't they?"

Absolutely right. The machine was first sold for about \$3,000 as a complete system (with what sounded like a lot of memory at the time — 16K). Later, the price was slashed to around \$1,000, then to about \$300. Finally, in late 1984, Texas Instruments pulled the plug and the last of the machines (several thousand of them) were liquidated through national department store chains for about \$50 each.

For most computers, this would have been the end of a rather dismal story. But the TI 99/4A apparently refused to die. Indeed, TI's decision to "kill" the computer seems to be responsible for its flourishing.

Software for the computer, which had been priced at \$25 to \$60 per program suddenly plummeted to \$5 to \$20 as retail houses turned their inventory over to liquidators. This made the machine one of the cheapest on the market to outfit with additional software.

Other liquidators bought up the available supply of expansion boards,

**Most of the TI's software came from places that were from an "education first" point of view.**

joysticks, disk drives, etc. And again, the prices on these items were slashed.

One such liquidator is Tenex Express up in Mishawaka, Ind., which publishes a quarterly catalog of software and hardware exclusively for the TI 99/4A. They also have extremely fast service (their number is (219) 259-7051).

Other liquidators can be found in the classified ads in the back of "Computer Shopper" and "Home Office Computing" magazines.

The next amazing fact about the "dead" TI 99/4A is that a small

**The next amazing fact about the "dead" TI 99/4A is that a small army of programmers have continued to write new software programs for it!**

man to produce software for its computer. While other computer makers were having their programs designed by companies that normally designed pinball arcade shoot-

em-up games, most of the TI's software came from places that were from an "education first" point of view.

(Not to make the machine sound like a totally dull educator's tool, the TI also had some very good game programs available from the arcade people at Sega, Bally, and others. These, too,

seem to still be readily available from liquidators.)

For children in the pre-school to eighth grade range, the TI is a more-than-adequate machine. The use of software on cartridges instead of disks also makes it an easier machine for them to handle. (A similar setup is available in a "living" computer with Tandy's 64K Color Computer.)

Before you buy a TI, though, ask around to your friends and family. You may even find somebody who will give you one! (I've discovered a surprising number of these computers are gathering dust in bedroom closets, still in the plastic.)

For a "dead" computer, it still has a lot of life left in it.

*Lutholtz is an Indianapolis-based editor and free-lance writer. He is the father of two young computer users.*



army of programmers who developed some attachment to the machine have continued to write new software programs for it! Each issue of Tenex's catalog usually includes at least a half dozen new programs (on cartridge, cassette or disk) that have been written for the machine.

Given that you can usually find a TI 99/4A keyboard in the Indianapolis ComputOr Paper or the Trader for \$50 to \$75 (often with a few programs thrown in) or a full-blown TI 99/4A system with monitor, disk drives, memory expansion unit, and printer for \$300 to \$600 — the machine is a significant deal. Compare these prices to the cost of a new anything else and you'll see that they are incredibly good.

What makes the TI especially good for kids, however, goes all the way back to the machine's beginning. Texas Instruments commissioned educational textbook publishers such as Addison-Wesley and Scott Fores-

-----  
W-AGE/99 \* NEW-AGE/  
99 \* NEW-AGE/99 \* N  
EW-AGE/99 \* NEW-AGE  
/99 \* NEW-AGE/99 \*  
-----

\* by JACK SUGHRUE, Box 459, East Douglas, MA 01516 \*

+5

Anyone in the TI World owning a disk system at least a month and has not yet contacted Jim Peterson at TIGERCUB Software is certainly leading a severely deprived life.

Jim has the largest collection of stuff at the cheapest prices possible for our amazing 4A. He couples this "best for the least" business with a fantastic knowledge of the machine and a kind, generous spirit. No one knows the BASIC and XB workings of the TI better than Jim. He is an expert in everything!

Mr. TI, as he is known by his thousands of admirers, seems to take to his computer the way Jean Henri Fabre took to ants. He is meticulous and creative and understands the soul of the 4A. I'm still in awe of his skills and dedication and influence.

There is no one in the entire TI World (unless he or she has been hiding under a rock since the 70s and has just been handed a machine) who has not felt the influence of this mild-mannered, modest man.

I've come across hundreds of programs with his fingerprints on them: programming enhancements and tools he has given to us. For years Jim gave newsletter editors free tutorials called "TIPS FROM THE TIGERCUB" which were (and are) so jampacked with wonderful programming goodies that it is hard to imagine what TI life would have been without this marvelous source. He still sends these "CARE" disks to sharing newsletter editors. He has also written the ultimate tutorial on programming in the form of subprograms that can be easily merged into any XB program (including a subprogram that makes BASIC programs into XB programs). These loaded disks of subprograms (called NUTS & BOLTS) can be purchased from him and readily used with your own or other programs. These Tigercub touches are what I see on almost every good XB program written for the TI in the past half decade."

Jim has also written so many programs for the Public Domain that we just take for granted that these kinds of programs have "always been there." They weren't. Until Jim gave them to us. There isn't a user group library in the world that doesn't have heaps of programs from Mr. TI.

He also writes numerous "commercial" pieces of software. "Commercial" only in the sense that they are for sale. They were low-priced and of high quality in the heydays of the 4A when everything was high-priced and too often of extremely poor quality. Years later, I still use a large number of his programs in school (SYNONYMY, MECHANICAL APTITUDE TEST, SCRAMBLE, SQUINCH (a fiendish word game), to name a very few). I wouldn't like to be without the other Tigercub utility and game programs I've enjoyed so much over the years (particularly the unendingly fascinating NUTS & BOLTS disks, which I had the honor of demo-ing at a recent computer fair. [I had the greater honor of meeting Jim at the great TI fair in Lima, Ohio.] The man's remarkable and is universally liked (which is remarkable unto itself).

(Jim's three NUTS & BOLTS disks (with a descriptively succinct manual/tutorial) are now only \$10 each. His five disks full of "TIPS FROM THE TIGERCUB", a newsletter editor's Godsend, are only \$5 each.

His 120 original programs (a refundable \$1 for the catalog) are now just \$1 each!]

Praising Jim's efforts on our behalf is not the purpose of this article. (It's just impossible to write about Tigercub without doing so.) The purpose of this article is to tell you about the latest goodies to come out of Tigercub. Jim, because of his huge number of TI contacts (without a doubt more than anyone else in the world), has been able to put together the largest collection of Public Domain and Fairware programs, files, and templates in existence.

This PD extravaganza can be dipped into by sending a refundable dollar for this catalog. (\$2 for both the Tigercub and TI-PD catalogs.) Within is an unbelievable world of goodies. A 4A maniac's paradise! At only \$1.50 per disk! Not per program. Per FULL disk! And that's postpaid!

These disks do not contain a pile of junk you'll never use, either. They are selected from the thousands Jim has in his library. And they are catalogued and sub-catalogued and regrouped.

An example: Interested in music? Those are the 600 series. What kind of music? Well, remember those great graphic/music combos of Sam Moore? 600 is a disk called "SAM MOORE MUSIC #1" (341 sectors). It has 11 super selections on it. But there is also a "SAM MOORE MUSIC #2" (343) and a 3 (348) and a 4 (337) before #604 moves to "BILL KNECHT HYMNS" (334) and so on.

You get the picture. You get a disk full of the kind of things you want and can use: educational programs, graphics, printer utilities, typing, health, you name it. Games are broken down into so many categories it's amazing. Three disks of just CARD games! All programs now run in XB and all come with Tigercub's famous Loader, forerunner of all the good loader programs found elsewhere. Jim has games broken down by specific type: "ROAD CROSSING GAMES", "KEYBOARD MANEUVERING GAMES", "Q\*BERT GAMES", "FORMER COMMERCIAL GAMES", "EASY GAMES FOR KIDS", "KING KONG TYPE GAMES", "TWO-PLAYER JOYSTICK GAMES" (there are loads of one-player), "GERMAN GAMES", on an on, page after page.

There's even such esoteric stuff as "LIGHT PEN PROGRAMS (including a disk file which teaches you how to make your own light pen).

There are disks of programs about Chemistry; Hi-res Drawing; Physics; Children's Programming with Speech; Sorts, Scrambles & Searches; Auto-loaders; Calculators & Converters; Astronomy, Religious Programs. The list seems endless.

The catalog gives you the full listings of the files on the disk: "FINANCIAL PROGRAMS" (356 sectors) includes the following selections with authors where known: Amortization Schedule (M Holgers); and #2 (J Roche); Compound Interest (C Good); Estate Tax Securities (R Shumaker); Debt Calculator (K Romstedt); Financial Math (C Ehninger); Financial Statement Ratio Analysis (C Colton); Investment Analysis (A Robertson) AND 15 more!

Just the work and time involved in the collecting, reviewing, selecting, debugging, sorting, creating full disks, cataloguing, printing, and distributing must be incredible. To charge \$1.50 a disk is the greatest TI giveaway of all times.

Order the catalogs today; then, after you wipe the drool off the table, order as much as you can to show Mr. TI how much you support his endeavors. TIGERCUB Software, 156 Collingwood Ave., Columbus, OH 43213.

(If you use REV-102/99 please put me on your exchange list.)

TIPS FROM THE TIGERCUB

No. 60

1 June 1990

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

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

My TI-PD library now consists of 400 disks of fairware (by author's permission only) and public domain, all arranged by category and as full as possible, provided with loaders by full program name rather than filename, Basic programs converted to XBasic, etc. The price is just \$1.50 per disk(!), post paid if at least eight are ordered. TI-PD catalog #2 with Supplement #8, listing all titles and authors, is currently available for \$1 which is deductible from the first purchase.

Here are a couple of improvements to the CHARFIX subprogram published in Tips #58.

```

29000 SUB CHARFIX(HX$()):: D
ISPLAY AT(12,1)ERASE ALL BEE
P:"Transliterate punctuation
?":: ACCEPT AT(12,28)SIZE(1)
VALIDATE("YN"):Q$:: IF Q$="
N" THEN 29004
29007 CALL CHARVIEW(HX$())
29009 SUB CHARVIEW(HX$())
    
```

And call the routine by CALL CHARFIX(HX\$()). These changes will avoid unwanted transliteration, and will make it possible to use CHARFIX for ASCII 24-31 and 144-159, if BXB has been merged in, as described in Tips #55.

The Spring 1990 issue of the TIMES newsletter from England contained an interesting challenge - write a program in any language to find the lowest power of 7 which contains six sevens in succession, i.e. "777777".

The computer cannot solve

this by any normal means, because it soon goes into scientific notation in which large numbers are rounded off into long strings of zeros. So, I taught it to multiply the old-fashioned way -

```

100 A$=STR$(7):: Y=1
110 Y=Y+1:: FOR J=LEN(A$)TO
1 STEP -1:: E=(VAL(SEG$(A$,
J,1))*7+X)/10
120 X=INT(E):: F=(E-X)*10::
X$=STR$(F)&X$:: NEXT J
130 IF X>0 THEN X$=STR$(X)&X
$
140 IF POS(X$,"77777",1)<>0
THEN 160
150 A$=X$:: X$="":: X=0::
GOTO 110
160 PRINT "7^";STR$(Y);"=";X
$
170 PRINT #2:"7^";STR$(Y);"="
";X$
    
```

The answer? 7<sup>175</sup>=78011207 9122081581024046412791118077 7777188182006932636111839698 5716038858440266717799156064 7169989331265664440734763224 8554716494939953912586437943

My TI-99/4A computed that in 24 minutes. Would someone like to try it on the 9640?

Anyway, I thought I would use the same method to solve precise multiplication of numbers too large to be computed directly. This routine will multiply two numbers of up to 28 digits each, and will handle decimals and negative numbers. For even larger numbers, change the ACCEPTs to INPUTs and if necessary change the DIM. The only limitation seems to be that the result cannot contain more than 256 digits and even that could be programmed around.

```

100 DIM C$(100)
110 DISPLAY AT(12,1)ERASE AL
L:"FIRST NUMBER?":: ACCEPT
AT(14,1)VALIDATE(NUMERIC)BEE
P:A$
120 IF SEG$(A$,1,1)="-" THEN
A$=SEG$(A$,2,255):: M=1
130 A=LEN(A$):: D1=POS(A$,".
",1):: IF D1>0 THEN A$=SEG$(
A$,1,D1-1)&SEG$(A$,D1+1,255)
:: D1=A-D1
140 DISPLAY AT(16,1)ERASE AL
L:"SECOND NUMBER?":: ACCEPT
AT(18,1)VALIDATE(NUMERIC)BE
EP:B$
150 IF SEG$(B$,1,1)="-" THEN
B$=SEG$(B$,2,255):: M=M+1
160 Y=LEN(B$):: D2=POS(B$,".
",1):: IF D2<>0 THEN B$=SEG$(
B$,1,D2-1)&SEG$(B$,D2+1,255)
):: D2=Y-D2:: D1=D1+D2:: Y
=Y-1
170 FOR J=Y TO 1 STEP -1::
    
```

```

W=W+1:: B=VAL(SEG$(B$,J,1))
:: A=VAL(SEG$(A$,K,1))
180 D=(A*B+X)/10
190 E=INT(D):: F=(D-E)*10::
C$(J)=STR$(F)&C$(J):: X=E
: NEXT K
200 IF X>0 THEN C$(J)=STR$(X
)&C$(J)
210 C$(J)=C$(J)&RPT$("0",W-1
)
220 X=0:: NEXT J
230 L=LEN(C$(1)):: FOR J=1 T
O Y:: L2=LEN(C$(J)):: IF L2
<L THEN C$(J)=RPT$("0",L-L2)
&C$(J)
240 NEXT J
250 FOR J=LEN(C$(1))TO 1 STE
P -1:: FOR K=1 TO Y:: G=G+
VAL(SEG$(C$(K),J,1)):: NEXT
K
260 G=(G+H)/10:: L=INT(G)::
G=(G-L)*10:: D$=STR$(G)&D$
:: H=L:: G=0:: NEXT J
270 IF H>0 THEN D$=STR$(H)&D
$
280 IF D1>0 THEN D$=SEG$(D$,
1,LEN(D$)-D1)&". "&SEG$(D$,LE
N(D$)-D1+1,255)
290 IF M=1 THEN D$="-"&D$
300 PRINT D$
    
```

And this one will add up an almost unlimited number of integers of almost any length - I haven't figured out how to get it to line up decimals.

```

100 CALL CLEAR:: DIM C$(100)
110 DISPLAY AT(12,1):"Input
from D:" (D)isk or:" (K)
eyboard?":: ACCEPT AT(12,12)
VALIDATE("DK")SIZE(-1):Q$::
: IF Q$="K" THEN 140
120 DISPLAY AT(12,1)ERASE AL
L:"Filename? DSK":: ACCEPT
AT(12,14):F$:: OPEN #1:"DSK
"&F$:INPUT
130 X=X+1:: LINPUT #1:C$(X)
:: M=MAX(M,LEN(C$(X))): IF E
OF(1)<>1 THEN 130 ELSE CLOSE
#1:: GOTO 160
140 DISPLAY AT(12,1):"Press
ENTER when finished":":":
150 X=X+1:: INPUT C$(X):: M
=MAX(M,LEN(C$(X))): IF C$(X)
">" THEN 150 ELSE X=X-1
160 FOR J=1 TO X:: IF LEN(C
$(J))<M THEN C$(J)=RPT$("0",
M-LEN(C$(J))&C$(J)
170 NEXT J:: FOR J=M TO 1 S
TEP -1:: FOR K=1 TO X:: G=
G+VAL(SEG$(C$(K),J,1)):: NEX
T K
180 G=(G+H)/10:: L=INT(G)::
G=(G-L)*10:: D$=STR$(G)&D$
:: H=L:: G=0:: NEXT J
190 IF H>0 THEN D$=STR$(H)&D
$
200 PRINT D$
    
```

It is easy to invert characters on the screen simply by making the foreground "on" pixels a lighter color than the background "off"

pixels - but when you make a screen dump, you will find that the "on" pixels will print and the "off" pixels will not.

Key this in, SAVE it by SAVE DSK1.INVERSE, MERGE and then merge it into any program by MERGE DSK1.INVERSE, call it at any point by CALL INVERSE(A,B), (A and B are the first and last ASCII to be inverted), and you will have all "on" pixels turned off and vice versa.

```
31111 SUB INVERSE(A,B):: FOR
  CH=A TO B :: CALL CHARPAT(C
  H,CH)
31112 FOR J=1 TO 16 :: CH2%=
  CH2%&SEG$("FEDCBA9876543210"
  ,POS("0123456789ABCDEF",SEG$
  (CH,J,1),1),1):: NEXT J ::
  CALL CHAR(CH,CH2%): CH2%=""
  :: NEXT CH
31113 SUBEND
```

Here is a truly remarkable discovery by Bill Hudson of the Central Ohio Ninety Niners. This 2-line program will allow you to RUN a variable name such as - A\$="DSK1.PROGRAM"

You can write lines before these, after these, and even RES the program. You can also use MOVE from GK UTILITY. You can do anything to the program you want as long as you don't change the content of line 1000. The line number does not even have to be 1000 BUT IT MUST BE THE FIRST LINE THAT YOU KEY IN!! You can merge a program into this but can't merge this into a program. Line 900 can also be a different line number but program execution must go to that line first.

```
900 FOR Z=1 TO LEN(A$):: CAL
  L LOAD(-41+Z,ASC(SEG$(A$,Z,1
  )),0):: NEXT Z :: CALL LOAD(
  -41,LEN(A$):: CALL LOAD(-44
  ,4+LEN(A$))
1000 RUN "DSKx.1234567890"
```

It's been a long time since we had a screen display to watch just for the fun of it, so here is a tinygram -

```
100 CALL CLEAR :: FOR SET=1
  TO 14 :: CALL COLOR(SET,SET+
  1,SET+2):: NEXT SET :: CALL
  SCREEN(2):: CALL VCHAR(1,1,3
  1,768)
110 FOR CH=32 TO 136 STEP 8
  :: CALL CHAR(CH,"FF00000000
  00OFF"):: NEXT CH
120 X=INT(RND*6+1)*2-1 :: Y=
  INT(14*RND+1)*8+32 :: FOR R=
  12-X TO 12-INT(RND*X):: CALL
  HCHAR(R,5,Y,R)
130 CALL HCHAR(25-R,5,Y,R)
```

```
140 CALL HCHAR(R,28-R,Y,R)
150 CALL HCHAR(25-R,28-R,Y,R
  )
160 ON INT(2*RND+1)GOTO 170,
  190
170 CALL HCHAR(R,4+R,Y+8,25-
  R*2)
180 CALL HCHAR(25-R,4+R,Y+8,
  25-R*2)
190 NEXT R :: GOTO 120
```

This is a challenging and educational math puzzler which I think is unlike anything you have seen. I had it in my Tigercub catalog thing you have seen. I had copies. If you don't want to key it in, it is now one of the programs on TI-PD disk No. 1300.1.

```
100 GOTO 140
110 J,K,ST,LV,I,R(),T,X,A,A$,
  X$,B,B$,C,C$,D,D$,AY,BY,B$,
  BY$,CY,CY$,C$,Q,Y(),Ye,X@{
  },FLAG,R$,RL,Z,VY,De(),Q$
120 CALL CLEAR :: CALL CHAR
  :: CALL COLOR :: CALL VCHAR
  :: CALL SCREEN :: CALL KEY :
  : CALL SOUND
130 @P-
140 CALL CLEAR :: FOR J=1 TO
  12 :: CALL COLOR(J,5,16)::
  NEXT J
150 CALL VCHAR(1,3,32,672)::
  DISPLAY AT(5,1):"@%###+#
  RITHMATIK #+##%@"
160 DISPLAY AT(10,1):" Selec
  t difficulty level -": " Ty
  pe 1 or 2"
170 CALL KEY(0,K,ST):: IF ST
  <1 THEN 170
180 IF (K<49)+(K>50)THEN 170
190 LV=K-48
200 CALL VCHAR(1,3,32,672)::
  FOR I=1 TO 4 :: RANDOMIZE
210 R(I)=INT(RND*10):: IF R(
  I)=0 THEN 210
220 FOR T=1 TO I-1 :: IF R(I
  )=R(T)THEN 210
230 NEXT T
240 NEXT I :: X=R(1)*1000+R(
  2)*100+R(3)*10+R(4)
250 A=INT(4*RND)+1
260 ON A GOSUB 330,340,350,3
  60 :: A=X$
270 B=INT(4*RND)+1 :: IF B=A
  THEN 270
280 IF (LV=1)*(LEN(STR$(R(B)
  /R(A)-INT(R(B)/R(A))))>2)THE
  N 250
290 ON B GOSUB 330,340,350,3
  60 :: B=X$
300 C=INT(4*RND)+1 :: IF C=A
  THEN 300
310 IF C=B THEN 300
320 ON C GOSUB 330,340,350,3
  60 :: C=X$ :: D=10-A-B-C ::
  ON D GOSUB 330,340,350,360
  :: D=X$ :: GOTO 370
330 X$=" 1st " :: RETURN
340 X$=" 2nd " :: RETURN
350 X$=" 3rd " :: RETURN
360 X$=" 4th " :: RETURN
370 AY=R(B)/R(A):: BY=ABS(R(
  C)-R(B)^2):: IF BY=0 THEN 38
  0 ELSE 390
```

```
380 B$="" :: BY$=" equal to
  " :: GOTO 400
390 B$=STR$(BY):: BY$=" mor
  e or less than"
400 CY=ABS(R(D)-R(C)-R(B)-R(
  A)):: IF CY=0 THEN 410 ELSE
  420
410 CY$=" equal to" :: C$="
  " :: GOTO 430
420 CY$=" more or less than"
  :: C$=STR$(CY)
430 DISPLAY AT(2,1):" I have
  a 4-digit number ":" with n
  o two digits the ":" same." :
  : DISPLAY AT(6,1):" The";B$;
  "digit is";AY;" times the";A
  $;"digit."
440 DISPLAY AT(9,1):" The";C
  $;"digit is ";B$;BY$;" the
  square of the";B$;" digit."
  :: DISPLAY AT(14,1):" The";D
  $;"digit is ";C$;" ";CY$;"
  the sum of the other digits"
450 DISPLAY AT(18,1):" What
  is the number?": ACCEPT AT
  (20,2)VALIDATE(DIGIT)SIZE(4)
  BEEP:Q :: IF Q=X THEN 530
460 Y(1)=INT(Q/1000):: Y(2)=
  INT((Q-1000*Y(1))/100):: Y(3
  )=INT((Q/100-INT(Q/100))*10)
  :: Y(4)=(Q/10-INT(Q/10))*10
  :: IF Y(B)<>INT(Y(A)*Y)THEN
  570
470 IF BY<>0 THEN 490
480 IF Y(C)<>Y(B)^2 THEN 570
  ELSE 500
490 IF (Y(C)<>Y(B)^2+BY)*(Y(
  C)<>Y(B)^2-BY)THEN 570
500 IF CY<>0 THEN 520
510 IF Y(D)<>Y(A)+Y(B)+Y(C)T
  HEN 570 ELSE 530
520 IF (Y(D)<>Y(A)+Y(B)+Y(C)
  +CY)*(Y(D)<>Y(A)+Y(B)+Y(C)-C
  Y)THEN 570
530 DISPLAY AT(22,1):" Corre
  ct!": :: FOR J=1 TO 2 :: C
  ALL SOUND(100,392,5):: CALL
  SOUND(100,440,5):: CALL SOUN
  D(100,494,5):: CALL SOUND(10
  0,523,5)
540 NEXT J :: CALL SOUND(100
  0,523,5,392,5,330,5)
550 DISPLAY AT(24,1):" Hit a
  ny key"
560 CALL KEY(0,K,ST):: IF ST
  <1 THEN 560 ELSE 200
570 DISPLAY AT(22,1):" Wrong
  " :: CALL SOUND(900,3000,3
  0,3000,30,400,30,-4,0):: DI
  SPLAY AT(23,1):" Type A to t
  ry again or 2": " to see the
  number"
580 CALL KEY(0,K,ST):: IF ST
  <1 THEN 580
590 IF K=65 THEN 450
600 IF K=90 THEN 610 ELSE 58
  0
610 DISPLAY AT(22,1):" The n
  umber was";X$ " " :: GOTO 550
  :: END
```

Nearly out of memory and all out of ideas. More next time, maybe.

Jim Peterson

Tigercub

(Thanks LA 99er TOPICS  
via Kawartha)



KIDS \*\*\*\*\*

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FAIRY TALES  
by Chick De Marti

One of the many fun things we can do with our TI-99 is write little programs for our grandchildren (or for you younger people, your children). I have a seven year old who can read(?) and enjoys nursery rhymes. This little program puts him into the nursery rhymes, if he wants it that way. No directions are needed...even a seven year old can handle it...so have fun!

```
1 ! SAVE DSK1.FAIRYTALES
10 CALL CLEAR
20 FOR I=24 TO 12 STEP -1
30 DISPLAY AT(I,8):"Fairy Tales" :: NEXT I
40 FOR I=24 TO 13 STEP -1
50 DISPLAY AT(I,8):"" :: NEXT I
60 DATA GUESS WHAT,TOE,NOSE,
HEAD,NECK,ARM
70 FOR N=1 TO 6 :: READ R$(N__
):: NEXT N
80 INPUT "What is your name
":N$ :: PRINT
90 INPUT "Are you a male (Y/
N) ":YN$ :: PRINT
100 IF YN$="Y" OR YN$="y" TH
EN G$="his " ELSE G$="hers "
110 ! ---repeat from here---
120 PRINT "Give me a friend'
s name" :: INPUT " ":F$ :: P
RINT
130 PRINT "Enter a favorite
drink" :: INPUT " ":D$
140 ! ---main part of prog.---
150 CALL CLEAR
160 R=INT(RND*4)+1
170 IF C(R)=1 THEN 260
180 R2=INT(RND*6)+1
190 B$=R$(R2)
200 CALL CLEAR :: PRINT TAB(
8);"Story Time": : : :
210 ON R GOSUB 400,500,600,700
220 PRINT : :
```

```
230 INPUT "Another story (Y/
N) ":YN$
240 IF YN$="N" OR YN$="n" TH
EN CALL CLEAR :: END
250 C(R)=1 :: GOTO 150
260 GAME=GAME+1 :: IF GAME=4
THEN GAME=0 ELSE GOTO 160
270 FOR I=1 TO 4 :: C(I)=0 :
: NEXT I
280 CALL CLEAR
290 PRINT : !"O.K. But let'
s put in some"
300 PRINT "new stuff ...": :
: :: GOTO 120
310 ---stories---
400 PRINT N$;" and ";F$
410 PRINT "Went up the hill,"
420 PRINT "To fetch a pail o
f ";D$
430 PRINT N$;" fell down and"
440 PRINT "Broke ";G$;B$
450 PRINT "And ";F$;"came tu
mbling after." :: RETURN
500 PRINT N$;" had a little ";D$
510 PRINT "And said ""I am no
fool, ""
520 PRINT "And gave ";G$;D$;
" to ";F$
530 PRINT "Who sneaked it in
to school." :: RETURN
600 PRINT "Little ";N$
610 PRINT "could drink no ";D$
620 PRINT "And ";F$;" knew it
too,"
630 PRINT "Stuck in ";G$;B$
640 PRINT "And pulled out a
plumb,"
650 PRINT "And then said"
660 PRINT ""Don't you wish
it was true?"" :: RETURN
700 PRINT "Rub a dub dub"
710 PRINT N$;" got in a tub."
720 PRINT "And ";F$;"jumped
over the moon;"
730 PRINT "They laughed so h
hard,"
740 PRINT "They spilled thie
r ";D$
750 PRINT "And ";G$;B$
760 PRINT "Ran away with the
spoon."
770 RETURN
```

**PUTTING GROM BASED CARTRIDGES IN YOUR CONSOLE**  
(The Easy Way)  
John F. Willforth - West Penn 99ers - Dec 88

If you would like to install several (up to 6 GROM chips) inside your own console without any circuit boards, and just a little wire, listen up!

Because the addressing is internal in a GROM, they can be stacked, and all of the GROM sockets in the TI-99/4A are pin-for-pin identical to each other. Take GROM 0, 1 and 2 from their sockets above the CPU chip, and stack them carefully and solder ALL 16 of their legs together. Now plug the whole 3-Chip unit in the GROM socket next to the Sound chip, observing direction (pin 1 location). Now you will note that you have two empty GROM sockets with the potential of six of these little beasts being stacked right on the CPU board. First though, you better test the console to see that you have everything still operational.

Multi-Plan requires five GROMS, and Editor Assembler one, for a total of six, and this will be one example of a full boat for these sockets without cutting a hole in the RF shield to stack these chips to sky-scraper proportions. You may prefer TI-Writer, one GROM, Disk Manager II, two GROMS, or any of the many GROM only cartridges that TI made, even games could be included in this list.

To keep this simple, however, I reference Multi-Plan and Editor Assembler. Remove the groms from their circuit boards carefully. Since you must keep all five of the MP chips selected at the same time, I would recommend that you make note of the E/A chip so that it doesn't get mixed with the MP chips just yet.

Stack any three of the MP chips and solder them together as you did to the console GROM chips earlier. Cut the part of pin 14 off the bottom chip of this 3-chip unit so that when this unit is inserted in the middle of the three sockets, there will be no connection to the corresponding pin in the GROM socket, but be sure that all three GROM pin 14s are soldered together. Now take the other two MP GROMS and piggy back them, and cut the bottom of pin 14 as before. Pick up the E/A GROM and bend pin 14 straight out; you don't have to cut it's pin. Slip the two MP GROMS on the TOP of the E/A GROM, and solder ALL but 14.

Using 3 - 12" lengths of multi-stranded wire (ribbon-cable works well), attach the center wire to the column of three pin 14s on the console GROMS by using a low wattage soldering iron, and one of the other two wires to the single pin extended from the E/A GROM, and the remaining wire to the two pin 14s of the MP immediately above the E/A GROM. Connect the two MP GROM pin 14s to the three MP GROM pin 14s in the middle GROM socket using a short length of wire.

Using an SPDT switch (on that is OFF in the center, and will stay on when it is thrown to either side), solder the center wire (from pins 14) of the console GROMS to the center lug on the switch. Attach the other two wires to either of the two remaining lugs on the switch.

Before buttoning up the console, test the switch to see that if the switch is in the middle on power-up, only Console BASIC is on the menu. When the switch is thrown in on of the two possible directions, on power-up, BASIC and EDITOR/ASSEMBLER will appear on the screen, and in the third position, on power-up, BASIC and MULTI-PLAN will appear on the screen. Then locate the switch inside the console in a convenient position, and button it up.

If you desire more selections, follow this same scheme, but use a rotary switch to allow more selections. This works, and should take very little time. You may want to order your GROMS from TI instead of tearing up a cartridge. GOOD LUCK!

**LOADING ASSEMBLY LANGUAGE PROGRAMS**  
By R.J. Bieber, Southern Nevada UG - January 1989

**DIS/FIX 80 FILES:** Determine type of object code by loading the first few lines of the DIS/FIX 80 file into TI-Writer and looking at the object code or use some other file reader to do the same thing.

If the object code is all ASCII characters (letters and numbers), then it's been assembled normally (uncompressed). If the object code does not contain all ASCII characters, then it's been assembled in the Compressed mode (C Option selected during assembly).

UNCOMPRESSED object code files can be loaded via E/A OPT 3 (Load and Run); thru FUNNELWEB Load Opt 4 (Load/Run); thru CALL LOAD statements in XB; or thru CALL LOAD Statements in Basic when the E/A module (or SuperCart) is plugged in with TI-Basic selected.

Sample XB CALL LOAD routine:

```
CALL INIT :: CALL LOAD("DSK1.FILE#1"):: CALL LOAD("DSK1.  
FILE#2"):: CALL LOAD(" ETC ")
```

If the program doesn't auto-start, then you'll need to add a CALL LINK("STARTNAME") Statement - (See Below).

COMPRESSED object code files can be loaded ONLY thru E/A Opt 3 (Load and Run) or thru FUNNELWEB Loader Opt 4 (Load/Run). They CANNOT be loaded via Basic or Extended Basic CALL LOAD Statements.

**STARTNAME:** If a DIS/FIX 80 program doesn't auto-start, then you will have to determine the program's Start Name. This can be done by using TI-Writer or some other file reader program to look at the last line(s) of the LAST FILE to be loaded. You should be able to pick out a familiar word or two (ie START, BOOT, SFIRST, GO, etc.). One of these is the program's Start-Name.

An easier way would be to load the File(s) through FUNNELWEB Loader Opt 4 (Load and Run). When the last file is loaded, bypass the Filename Load Prompt by leaving it blank and pressing enter. The next Screen will display the Def Table Contents with the Key Words Displayed. Select the first Key Word and Press FCTN 6 (Proceed) and the program should boot. If it doesn't, then try the next word(s) one at a time. One of them should work. If the program still won't boot, then either all the necessary support files were not loaded, or the program boots through another program, or the program is bad.

(CONTINUED Page 16)

\* \* \* \* \*

## ENTHUSIASM

"Enthusiasm is one of the most powerful engines of success. When you do a thing, do it with all your might. Put your whole soul into it. Stamp it with your own personality. Be active, be energetic, be enthusiastic and faithful, and you will accomplish your object. Nothing great was ever achieved without enthusiasm."

---Ralph Waldo Emerson

\* \* \* \* \*

## ASSEMBLY (cont from 15)

**MEMORY IMAGE (MI or E/A 5) PROGRAM FILES:** If you try to Load a file labeled as a program and get an IO Error 50, then more than likely it's an assembly language program saved in Memory Image format via the Editor/Assembler Save option during assembly. If you see a series of program names with just the last character of each name incremented by one character, then it's probable they're a series of MI programs that will load one after another. Another way to identify MI programs is to check the sectors used - 33 or 34 sectors are normal, but they can be less, especially with segmented programs.

Memory Image Programs can be loaded via E/A Opt 5 (Run Program File), thru FUNNELWEB Loader Opt 4 (Load/Run (E/A)), or thru most any Memory Image Program Loader such as SYSTEX, MI-PGM-LDR or QUICKLOAD.

If you get an MI Program to load, but it won't boot properly, try FUNNELWEB Loader Opt 2 (GPL Environment). I've found some programs that'll only run thru the GPL Load Environment.

**SUPER-CART 8K RAM CARTRIDGE:** Because the Super-Cart contains an Editor/Assembler IC chip, it can perform all the normal E/A functions such as Load and Run (DIS/FIX 80), Assembled object code files or Run Program (E/A Opt 5) files. To Edit and Assemble programs, you must have the necessary Editor/Assembler support files on disk; otherwise, you'll have to use the modified Editor/Assembler routines included in the FUNNELWEB program series.

Only programs coded to load into the cartridge port memory space starting at address >6000 will load INTO the Super-Cart. All other programs will load into the 32K memory expansion. However, I have found some programs designed to Load and Run using the Mini-Memory Cartridge will also Load and Run using the SuperCart.

Plug in the SuperCart and select E/A from the TI-Title Screen just as if you had the original TI-E/A cartridge installed. Use the E/A menu Opt 3 or 5 to load programs into the SuperCart. If, after loading, the program(s) don't Auto-start or the computer appears to have locked up, don't despair. Just reset the system and see if you get a Super Cart menu when you return to the TI-Title Screen. Selection from the menu should, in most cases, start the program. If not, reload and try again. The SuperCart contains an inexpensive Lithium cell battery so programs are retained in memory as long as the battery stays alive. You can unplug the Cart and carry your programs around with you.

These hints are not the complete story. However, they should provide enough information for beginners who want to learn how to Load and Run assembly programs.

### EASIER BOLD OR UNDERLINE ON TI-WRITER

Ever want to make an entire line or paragraph bold or underlined? Get tired of typing dozens of @'s to boldface a sentence? Here's what to do: Type in the line with normal spaces. Put the cursor at the beginning of the sentence. Then go to Replace String(RS) and type the following: / /@/

When the prompt (All, Yes, No, Stop) appears, select Yes. The (@) will be put before each word.

### T. I. WRITER (Part 1) by Stan Katzman

John Willforth asked me if I would write a column on T. I. Writer for the Newsletter. I told him that I did not feel like an expert on the program but I would try. If anyone has any comments please feel free to make them because I can learn from you also.

The best place to start is at the beginning. When I first unpacked T. I. Writer it was quite intimidating, a cartridge, a disk and that BIG manual. It is not as bad as it seems and it really is an easy program to learn to use. One must have the following 1)Consol, 2)32K memory expansion, 3)RS232 card, 4)disk drive (2 disk drives are best but you can do very nicely with one and 5)a printer. (The printer should be Epson compatible).

First make a copy of the program and use the original as a backup. (Very important.)

Place the cartridge in the port and the program in the drive. (I am assuming one disk drive.) Power up the system and get T. I. Writer from the menu using the English version. Next you will see 1.EDITOR 2.FORMATTER 3.UTILITY. We will discuss the Editor first because all writing is done here. Press (1) and the disk will now run putting the Editor program in memory. A line will show across the top with a cursor (you are in Command Mode). The line says "Edit, Tabs, Files, Lines, Search, RecoverEdit, ShowDirectory, Quit". We will now just discuss Tabs and Edit."

The line starting with "Edit" is called the Command Mode. Let us now set our tabs (and margins). Press "T" and the cursor will move to a numbered line. First hit the space bar and remove the "L", then with the "Fctn D" move the cursor to the 10 space and type "L", then move the cursor with "Fctn D" to 70 and type an "R", press Enter and you are in the editing mode and you can type anything you want with the margins set at 10 and 70. (If you want different margins just enter them as described). You do not have to press the enter key at the end of the line unless you want to start a new paragraph. You are in Word-wrap mode.

If you want to print out your document at this stage just press Fctn 9 and you are back in Command Mode. Now press F (files) and you will see more selections such as LoadF, SaveF, PrintF, DeleteF, Purge or ShowDirectory. At this point type "PF" and you will now see "PRINT FILE, enter devicename:", at this point if you have a parallel printer enter PIO and your document will be printed out as you typed it.

Try using the word processor and reading the instructions. You will find it easy to use. More next time.



## SOME NOTES ON VIDEO

By - Delbert Wright

I was prompted to write this article because of a message on our BBS. I remember how confused I was when started in computers. You either bought what was offered by the manufacture as output, or you used a television. I thought I had gotten a lot smarter and knew I could just use any device with inputs marked "VIDEO IN" to output my TI99/4A video to and I had a much better display than with a TV.

All that smugness came to an end when I set about finding a monitor for a Myarc 9640 Geneve that I could use in 80 column mode. I initially used the Geneve in 40 column mode, and must give Myarc credit for having the sense to make an output from the 9640 that could be used without a lot more immediate cash outlay. However, those days are gone because some of the newer versions of MDOS will not allow you to use the MODE 40 command to set the output to 40 columns. You can see 80 columns on the same 40 column monitor that you have been using with your TI99/4A, but as Ron Albright said in his Computer Shopper review "it's not something you would want to spend a lot time with".

In order to understand different video conventions and connections, we need at least a passing knowledge of how TV pictures are displayed.

The picture tube of a TV or computer monitor is technically known as a Cathode Ray Tube, or CRT for short. A coating of phosphorus on the face of the CRT glows when struck by electron beams. The beam is controlled by circuitry to make it move sideways from the upper left across the CRT to the upper right. Then the beam is turned off and quickly repositioned at the left side and down a little. The beam is turned on and again sweeps across the CRT from left to right. While it is moving, the brightness, or intensity is varied to form the details of the "picture".

The scanning continues until the entire screen has been covered by the beam. From the lower right corner, the beam is returned to the upper left corner and a new field, or picture is started.

If the process stopped now the phosphorus would gradually lose its glow & the screen would fade away, so the entire process is repeated 60 times a SECOND! In North America there are 525 lines scan lines per picture. If the screen is not redrawn about 60 times per second, the action of the phosphors fading out & being reilluminated causes annoying "flicker". In TV it is desirable to have quickly fading phosphors because of action on the screen. In computer monitors a more desirable scenario is "long persistence phosphors". In TV each "picture" is divided into 2 fields of 262.5 lines each. One field is all odd numbered lines & the other is all even scan lines. Not all are actually used for displaying details. Some are "turned off" retrace lines & some are off the top & bottom of the screen. There are about 15,750 lines per second. This means the whole screen is covered in 1/60 of a second. Actually all the ODD lines are scanned on the first pass and then all EVEN lines are scanned on the second pass. THIS IS CALLED INTERLACE.

Most computer monitors do NOT interlace, but instead use 262 lines repeated 60 times a second. What we have is 2 fields again for each "picture" or frame, but they are not shifted a line so they are both identical.

The black & white signal has three parts:

1. The part which tells the beam to return to the upper left corner & start a new picture. This called VERTICAL SYNC. It happens every 1/60 second.

2. The part which tells the beam to return to the left side and start a new line is called HORIZONTAL SYNC. It happens every 64 micro-seconds.

3. The part that makes the beam brighter & darker as it is moving is called LUMINANCE.

BULLETIN BOARDS

by: Delbert Wright

Did you ever what people talk about on the bulletin boards? The column on video was inspired by a message on the Hoosier User Group bulletin board. The following is a sample of actual messages from our board.

From : DAN  
To : ALL  
Re : NEW  
Date : 01/06/91 @ 17:42:54

Two more uploads:  
In the text are c4000arc, this is information from Wayne Stith on how to write monster programs in GPL mode on the geneve.

In Utilites - Modearc, A program I wrote that will allow you to set the monoChrome mode on on the 9938. Only tried with a dijit card. May or may not work with a geneve.

From : BILL  
To : DELBERT  
Re : P-BOX  
Date : 01/13/91 @ 21:23:18

Delbert, I just panicked really bad. My flex cable light, rs232 light, memory light ALL came on and stayed on!!!

I put the Teac drives in the p-box and moved the corcomp disk controller over so I could easily connect the IDC connector. My p-box ONLY likes the disk controller in slot 8!!!

I tried pulling cards one at a time down to the flex cable. I one point it said NO MEMORY (myarc 512K).

All seems to be okay now. Teac drives are just "set" in the opening for now. Found at some point in time I had set the HS 3 ms for the Qumes, I suspect this maybe the reason I have had trouble using TELCO and having alot of grinding noise!!! I hope.

From : BILL  
To : ALL  
Re : Indiana Hamfest  
Date : 01/16/91 @ 14:05:56

The Indiana Hamfest will be Sunday, March 10, 1991. Doors open 8:00am. Admission is \$7.00.

The Indiana Hamfest will be in the East Pavilion Building at the Indiana State Fairgrounds.

Flea market space with 8 foot space \$12.00 each. Prepayment required. Reservations for tables must be postmarked by Feb. 22, 1991. Telephone orders will not be accepted.

Setup hours: Drive in to unload:  
Saturday, March 9 - 3:00 to 9:00pm  
Sunday, March 10 - 6:00 to 8:00am

For table reservations - SASE to:  
Aileen Scales - KC9YA  
3142 Market Place  
Bloomington, IN  
Phone (812) 339-4446

Make checks payable to:  
INDIANA HAMFEST

From : RICK  
To : ALL  
Re : monitor help  
Date : 01/19/91 @ 15:59:10

Help! The more I try to discern the best answer the more confused I am getting! Can those who have better knowledge than I explain the difference, and best attributes of monitors. i.e. Can RGB monitors be used with IBM Compatibles? Are RGB monitors already extinct? I don't see them advertised in the newer catalogs Will a VGA work with a TI? The new card by OPA the TIM will only work with an RGB monitor. Are digit cards still available as I noticed in their add no mention of specific monitor. What is the difference between RGB and composite? I guess by now you have noticed this is a confusing area to me. Any and all HELP is appreciated!! Thanks <Rick>

## HUG OFFICERS

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## BBS

Hoosier Users Group  
Baud rate: 300/1200/2400  
On Line 24 Hours Daily

317-782-994A

Now with a Hard Drive  
40 MEG ON LINE

MONTHLY MEETING LOCATION  
LITTLE HOUSE NEXT TO THE  
ST. ANN'S SCHOOL  
2839 S. McCLURE  
INDIANAPOLIS, IN

MEETING STARTS  
AT 2:00 P.M.  
FEBRUARY 10, 1991

This news letter is brought to you  
by the efforts of the officers  
members of the Hoosier Users Group.

THE OPINIONS EXPRESSED HEREIN ARE  
THE AUTHORS', and DO NOT NECESSARILY  
REFLECT THOSE OF THE PUBLISHERS.

MEMBERS ARE ENCOURAGED TO SUBMIT  
ARTICLES FOR PUBLICATION. PLEASE!

REMEMBER  
this is YOUR user group too!

From : BILL  
To : ALL  
Re : EAGLE  
Date : 01/18/91 @ 20:24:33

Now in the download 8 section of this  
bbs is a GIF picture of an EAGLE or  
should I say a screaming EAGLE!!!

Enjoy this GIF picture with Barry  
Boone's GIF MANIA program.

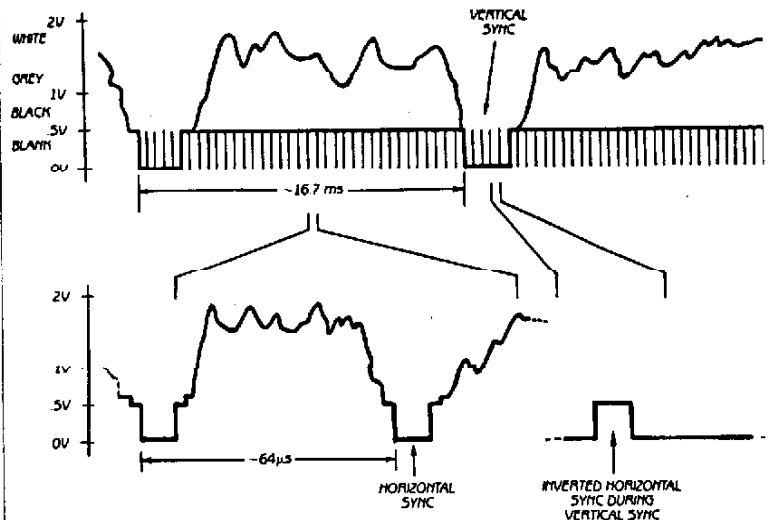
As you can see there are lots of inter-  
esting and helpful messages on the BBS  
and all you need is a modem. Acces to  
the HUG BBS is available to the general  
public, but you can only download, or  
copy programs that appear in other  
sections if you are a member and your  
dues are current.

So Come on everybody, get your modems  
connected and call the HUG BBS at  
317-782-9942. We operate at 300,1200  
and 2400 baud, 24 hours a day.

PEOPLE HELPING PEOPLE..that's our motto.

## VIDEO (continued)

All of these signals on one wire is  
called  
COMPOSITE MONOCHROME VIDEO and would  
look something like this:

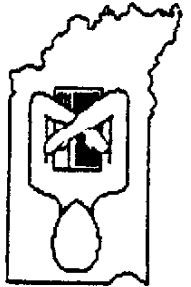


This article will be continued ,  
in the next HUG newsletter.

**TIME DATED**  
 February 10, 1991  
**MATERIAL**

Dan H. Eicher  
 P.O. Box 605  
 Mooresville, IN 46158

APR 10



**HOOSIER USERS GROUP**  
 P.O. Box 2222  
 Indianapolis, IN 46206-2222  
 Forwarding and Address  
 Correction Requested



**APPLICATION FOR MEMBERSHIP**

Below you will find an application for membership to the Hoosier Users Group. Active membership entitles you to the Newsletter and download on the HUGbbs, attendance and voting rights at regular club meetings, access to the HUGger Library of Programs, special club activities and special guest speakers for one year. Subscribing members will receive the **NEWSLETTER** only.

Make check or money order payable to **Hoosier Users Group**. Send completed application to:

**HOOSIER USERS GROUP**  
 P.O. Box 2222  
 Indianapolis, IN 46206-2222

(Cut on dotted line)

Check One:

**Active Member**

New: \$20 \_\_\_\_\_  
 Renewal: \$17 \_\_\_\_\_

Amount Enclosed \_\_\_\_\_

# \_\_\_\_\_ D \_\_\_\_\_  
 S \_\_\_\_\_ O \_\_\_\_\_

Name: \_\_\_\_\_ Today's Date: \_\_\_\_\_

Address: \_\_\_\_\_ Apt. # \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Interests/Comments: \_\_\_\_\_