

Spirit of 99



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Spirit of 99

THE OFFICIAL NEWSLETTER OF CENTRAL OHIO NINETY-NINERS



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Central Ohio Ninety Niners Inc. is a non profit organization comprised of MEMBERS who own or use the TI99/4A computer and it's related products and have paid a yearly membership fee of \$28.00 and whose main objective is the exchange of Educational and Scientific information for the purpose of computer literacy.

C.O.N.N.I. meetings are held the 2nd Saturday of each month at the Martin Janis Senior Center - East Eleventh Ave. at the Ohio State fairgrounds. Meeting time is at 9 am. Meetings are open to the public. Membership dues (\$28.00) are payable yearly to C.O.N.N.I. and cover the immediate family of the member. (An application has been placed

in this newsletter for your convenience) Please address it to:
EVERETT WADE
179 ERIE ROAD
COLUMBUS, OH 43214
ADVERTISEMENT:

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Business Card (2x3.5):
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Full Page: \$75.00

Write this newsletter for other size arrangements.

All ads should be submitted (camera ready) to advertising address above, payment enclosed. Members ads are published at no cost. (Limit of 25 words and must not be commercial please.)

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VICE PRES.....	JIM SEITZ
SECRETARY.....	JERE SINGLETON
TREASURER.....	JOHN CUMMINGS
LIBRARIAN.....	CHUCK GRIMES

 ANNOUNCEMENTS

PAY YOUR DUES



Dues are usually paid at or before the March meeting, and are \$28 per year for full membership, library and voting privileges, plus the newsletter. You may also pay your dues in two installments if desired: \$14 in March and \$14 in September. If only the newsletter is desired, then payment is \$20 per year. Those who join during other months of the year pay a lesser, pro-rated amount:

Mar---28.00	Apr---25.75	May---23.50	Jun---21.00	Jul---18.75
Aug---16.50	Sep---14.00	Oct---11.25	Nov---9.50	Dec---7.00
Jan---4.75	Feb---2.50			

Fill out an application blank (one on the back of this newsletter), make a check out to C.O.N.N.I. and give it to Everett Wade, the membership registrar, at one of the meetings or mail to him at the following address:

Everett Wade
 179 Erie Rd
 Columbus, OH 43214

MM
 M Membership renewals: If you have renewed M
 M your membership, your membership card is M
 M enclosed in this newsletter. M
 MMM

 MEETING AGENDA ----- SATURDAY 9 APRIL 1988

- 9 AM Select Public Domain programs of your choice. Order from Jim Peterson. 50 cents per program.
- 9:30 AM Beginners session of Questions and Answers



- Raffle drawing
- A Postponed Demo: Fred Tietzel-"Let's Get Organized" Multiplan as a Data Base
- John Cummings will demo "PRBASE" a Data Base

Business meeting

+++++++
 + NEW!!! +
 + HARDWARE S.I.G. +
 +++++++

At each Saturday meeting and hopefully each evening meeting as well, Curt Borders will be leading a group designed to help members add hardware options and modifications to their equipment. All welcome.

+++++++
 + COFFEE ANYONE? +
 + SATURDAY MORNINGS +
 +++++++
 Call Jim Seitz (875-5532) to be a host or hostess. SIGN UP IF YOU WANT ANY COFFEE!!

Apr-J. Hall	Oct-
May-J. Seitz	Nov-
Jun-	Dec-
Jul-	Jan-
Aug-	Feb-
Sep-	Mar-

+++++++
 + SURVEY RESULTS +
 + DESIRED DEMONSTRATIONS +
 +++++++
 SAT A.M. THURS P.M.

10 PRBASE	5
6 FUNNELWEB 4.0	2
6 MAX-RLE	1
5 HORIZON RAMDISK	2
4 DATABASE 1	0
3 ACORN99	1
2 DISK MANAGER 1000	1
0 BASIC PROGRAMMING	1
0 KERMIT	1
0 MODEM USAGE	4

PRESIDENT'S MESSAGE



by Dick Beery

This is my first article as president of C.O.N.N.I., although I have written others on genealogy and on modem usage. Irwin's two terms as president will be a hard act to follow. He took over during a period of serious decline in the club's prosperity, and has done a fine job of rebuilding the group.

My personal objectives for the group, ones I hope are shared by the membership at large, are to make the meetings interesting, enjoyable and worthwhile to the widest variety of members possible. We hope to attract new users; to interest and stimulate young people in using programs and in programming itself, and to encourage more of the total family participation that we once enjoyed; to have available demos and activities for both the inexperienced and experienced user; to expand the members' knowledge and awareness through announcements of new developments, classes, and other worthwhile activities.

To meet some of these objectives, we have already formed a hardware S.I.G., capably led by Curt Borders; have identified a member who will be working soon with those members, new or old, who are "beginners" and who have limited equipment and knowledge but who want to learn; begun formation of our Spring class schedule; have polled the membership in attendance at the March

meetings as to their preferences for future demos; and have begun a cartridge library, so that those with limited systems have another source of programs besides those in our cassette library. Our old standby, the Genealogy S.I.G., is stronger than ever, and is now headed by Jean Hall, our newsletter editor. We hope to begin other S.I.G. groups as we are able to identify members' needs and wishes.

We hope to encourage our members to expand their knowledge through "field trips" such as the May 21st T.I.Faire at Lima, Ohio, and at the Chicago T.I.Faire in November. The Lima meeting, while it is new, promises to be both exciting and worthwhile, and may attract those who find the Chicago trip too difficult. Certainly public-service opportunities, as these arise, could expand our horizons.

Many of you are already aware that we now offer two monthly meetings: the regular one on the 2nd Saturday of each month, and a second one on a weekday evening (announcement elsewhere in this issue) for those who are not free on Saturday to attend. These latter, as well as many who attend on Saturday as well, have firmly established this second meeting as a part of our overall activity.

To attract and interest both young and old, we are sponsoring a programming contest for members (details elsewhere in this issue). Two categories have been defined: under age 17, and 17 and above.

I plan to contribute a regular column this year, though I am less of a programmer than is Irwin, so I will do more in the way of keeping you up-to-date on new program offerings and other happenings in the T.I. world. I hope many of you will help me in this by letting me know when you hear of such items yourself so that I may share them with the rest.

~~~~~  
& EVENING C.O.N.N.I. &  
& MEETING &  
&~~~~~  
& WHEN: THURSDAY 21 APR &  
& WHERE: McDONALD'S &  
& corner of Main St &  
& and Cleveland Ave &  
& in Westerville, OH &  
& TIME: 7:30 PM &  
& This meeting is for &  
& all members, part- &  
& icularly for those &  
& unable to attend &  
& Saturday meetings!! &  
&~~~~~  
& STARTING IN MAY THIS &  
& EVENING MEETING WILL BE &  
& HELD ON THE &  
& 4TH WEDNESDAYS &  
& OF THE MONTH &  
&~~~~~

~~~~~  
// MEMBERSHIP LIST TO BE //
// PUBLISHED //
~~~~~  
/ All members names and /  
/ phone nos. will be pub- /  
/ lished for a handout to /  
/ be given to members unless /  
/ members notify the ED. /  
/ in writing by 2 May 1988. /  
~~~~~

C.O.N.N.I. BUSINESS MEETING
MARTIN JANIS SENIOR CITIZENS' CENTER
MARCH 12, 1988

SS

The question and answer session started at 9:30, hosted by Dick Beery, Jim Peterson, and Irwin Hott.

Meeting was called to order by President Dick Beery, who introduced the officers and librarians. Dick then asked for volunteers to work the club snack bar.

No treasurer's report was given in the absence of John Cummings.

A motion to accept the minutes for last month's meeting was approved.

A motion to allow payment of dues bi-annually was approved.

A motion to make regular payments to the Janis Center was approved.

Curt Borders reminded members to return any overdue newsletters.

On the order of new business, the hardware S.I.G., to be conducted by Curt Borders, will begin its first segment this month.

Chuck Grimes described the contents of Disk of the Month and announced the programming contest to be completed by the June meeting.

Dick Beery announced the Thursday night meeting this week, starting at 7:30 P.M. featuring Bud Mills as a guest speaker. Plans for C.O.N.N.I. participation at the Lima T.I. Fair were also discussed.

A motion to publish a membership list with areas of individual interest for those who wish to participate was approved.

Vice President Jim Seitz passed out sign-up sheets for classes and a preference list for future demos.

President Dick Beery announced that at next month's meeting, name tags will be issued for all members and guests.

The meeting adjourned at 11:00 A.M. and demos followed.



Respectfully Submitted

Jere Singleton
Secretary

C.O.N.N.I. EVENING MEETING
MCDONALDS WESTERVILLE #2
MARCH 17 1988 7:30 PM



Meeting was called to order by president Dick Beery who introduced the officers and gave updates from the Saturday meeting.

Curt Borders will be in charge of the hardware S.I.G. with Ken Marshall taking over when Curt is unable to be at the meetings; and Jean Hall of the Genealogy S.I.G.

Chuck Grimes explained the programing contest, and Irwin Hott gave the TI news.

The highlight of the meeting was a demonstration and question and answer session by Bud Mills on the Horizon Ram Disk.

Respectfully submitted
Jere Singleton
Secretary



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ink
well**
quality printing

JOHN S. KOVACH
Manager

HANBY SQUARE SHOPPING CENTER

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MONTHLY DEMONSTRATIONS



Just in case you have been missing the boat, let me remind you once again what's in store for you at our regular monthly meetings.

One of our unique members, Curt Borders, has taken on the mission of introducing a demonstration each month that will enlighten you on how you can upgrade your console with some minor changes/or additions that will greatly enhance your computer with very little effort and cost on your part with a lot of benefit to the user.

In case you were unaware, last months demo was on the addition of a 1N4148 diode so that you will never again have to worry about which position your Alpha Lock Key is in when you are playing a game with the joysticks. Remember, the key always had to be released for the joystick to work properly to move in the up position. This always seemed to be a nuisance for a lot of people although others never seemed to mind.

Mark McCormick had reasoned that many people had asked him why the alpha lock key must be up to use the joystick, and he explained that this was due to the way the TI99 decodes the keyboard matrix, and if you add the simple diode to your console, you will never have to worry again! We thank Mark for his tip.

Now for the good part, next months meeting Curt will demonstrate the use of a load interrupt, hold, and a reset switch on the console. If you are asking yourself why would you want to put one of those on, then I can only say that you have probably never experienced a total lockup of your system during the running of a program and you have been very fortunate at that, because it has happened to me a lot more than once! The only way you can regain control of the console is to power off because no other key will let you have control back once you are locked up. The only thing you can do at this time is turn it off and then back on again. This causes extra wear and tear on the on/off switch itself and is indeed unnecessary now that he can inform you how to accomplish this job. The load interrupt switch is a necessity for use in dumping a screen of text or graphics to a printer. The hold switch is especially useful for games which do not have a pause function, or at any other time in which you just may want to take a break and put everything on hold for a short coffee break, etc.

Be there and watch his demo next month. You'll be rewarded because you'll be the winner!

Curt has a lot more up his sleeve so be on the alert and watch each month for his neat little bag of tricks that will be not only simple but easy to perform with his helpful expertise. His article appears elsewhere in this issue, so look it up and decide ahead of time, and if you are interested, contact him at the meeting. He is really great at helping others, and is eager to help you.

See you at the meeting_____John Parkins

APRIL DEMO



By Curt Borders

LOAD INTERRUPT, HOLD AND RESET SWITCHES FOR THE TI-99/4A COMPUTER

LOAD INTERRUPT:

THE LOAD INTERRUPT, WHEN ACTIVATED WILL CAUSE THE COMPUTER TO SUSPEND IT'S CURRENT OPERATIONS. THEN IT WILL LOOK AT A SPECIFIC MEMORY LOCATION THAT WILL TELL THE COMPUTER WHERE TO GO FOR THE NEXT SET OF DIRECTIONS.

HOLD:

THE HOLD DOES WHAT IT IMPLIES. IT PUTS THE MICROPROCESSOR ON HOLD. IT'S GOOD FOR STOPING THE COMPUTER DEAD IN ITS TRACKS WORKS GREAT FOR GAMES THAT DO NOT HAVE A PAUSE FUNCTION. THERE ARE TIMES WHEN YOU DO NOT WANT TO USE IT, LIKE DURING A DISK READ OR WRITE OR INITILIZATION ROUTINE.

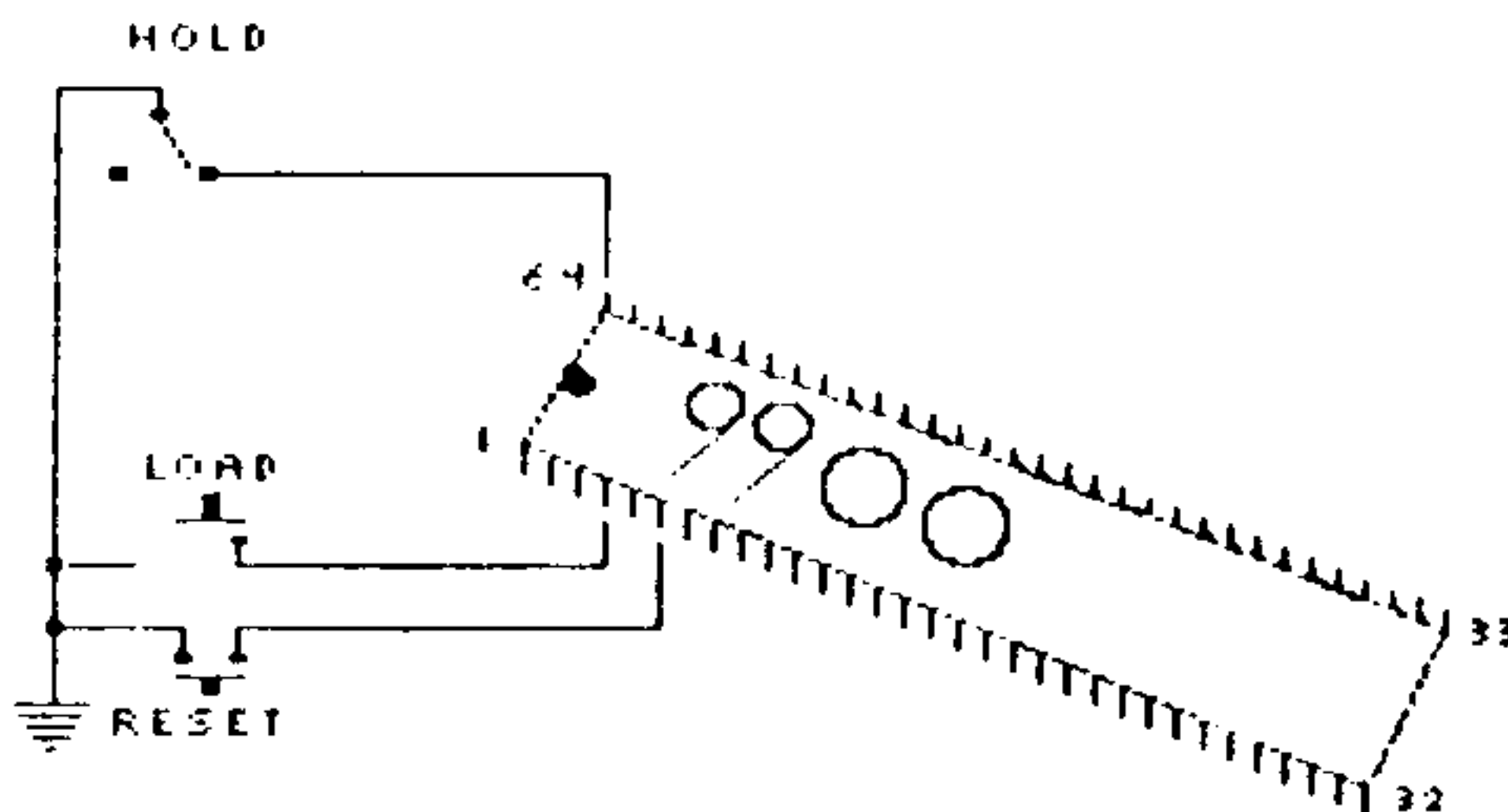
RESET:

IT CAUSES THE COMPUTER TO DO THE POWER UP ROUTINE. THIS IS GREAT WHEN THE COMPUTER LOCKS UP. YOU HIT THE REBET SWITCH AND YOU ARE BACK TO THE TITLE SCREEN. THIS SAVES WEAR AND TEAR ON YOUR POWER SWITCH AND EXTENDS THE LIFE OF THE COMPUTERS POWER SUPPLY.

PARTS

1-8P/8T MINI SWITCH
2-MOMENTARY SWITCH

RB# 275-620 OR 275-1545
RB# 275-1547



CORRECTION
by JIM PETERSON



The CATWRITER program, published in Tips from the Tigercub#47 in the Spirit of 99 newsletter of March 1988, contained a couple of errors. I hope that any newsletters which copied that article will publish this correction. The Tips #47 which will be sent to user groups shortly will contain the correct version.

In the file to be merged as CAT1, line 16 should be 16 IF N=20 THEN 19 :: R=3 and in the CATWRITER program, renumber line 5, which reads 5 OPEN #2:"DSF1.CATMERGE",VARIABLE 163,OUTPUT, as line 9 and add a new line 5-5 DISPLAY AT(12,1):" Place disk to be cataloged":"in drive 1 and press any key" :: CALL KEY(0,K,S):: IF S=0 THEN 5

Sorry 'bout that' Jim Peterson.

PLUS!

WORD PROCESSING COMPANION A REVIEW BY JEAN HALL

You liked FUNPLUS, you'll love PLUS! Jack Sughrue has

created a super DSSD disk (FULL-714 sectors) of goodies for all to use with FUNNELWEB, T.I. WRITER, BA WRITER or MYWORD.

Print out "PLUS!DOCS" through the FORMATTER first, then print out the four DOCPACKS (12 files) and put them in built-in booklets as suggested by Jack (see the next page). The docs are well written and explain which DV80 files to print and why. The one/two stroke TIW loaders that are included are terrific and sure make it easier for us the users to write a term paper, write a letter, use condensed print, put graphics in our text with ease and more.

The Multicolumn program is great for all the newsletter editors out there that want to print out a two column page. The directions are easy to follow and it works!!!

You can catalog drives 1,2 or 3 (including RAM) with the CAT program

The INSTALABEL (1), INSTAPRINT (2), INSTADUMP (3), and INSTAMAIL (4) all perform instantly. An example of (1) I print out 500 labels -1 CUP SUGAR- to use on packages of sugar that are broken down for the food pantry to give to one/two person families. (2) will print out any DV80 text or graphic file without using EDITOR or FORMATTER. (3) will dump any non-redefined character directly from the screen to the printer and (4) is a quick hard copy address maker.

The CALENDAR program is

wonderful and I now can make a personalized calendar and put in messages on the date I want and the spaces are a nice size.

BANNER prints out a banner that you create by designing your own characters, numbers or pictures. NEAT!!!!

3/COL will give you a reduced catalog printout with the date for your disk envelop.

IG!PAY - convert your English words, phrases or sentences to Pig Latin. Kids will love it.

SET-UP - A Star (Epson) compatible printer set-up.

TINYTEENY - the smallest wordprocessor ever. You have to see it to believe it. Can even print on adding machine paper.

PLUS!REVIEW - This fine program can be used to make a presentation. Has many uses.

P! - Want to make your own cursor. Easy with P!

FNLSTRIP - print out a 4 line console strip of your choice - also TI WRITER strip.

GOTHIC - prints out lovely letters to be used on awards, banners, certificates etc.

Try PLUS! and you'll have alot of fun. The DOCS are tremendous and lead you step by step through each procedure. Jack has spent time, effort and money to create this fine disk. He is only asking \$10 for this excellent disk full of goodies. Send check to: Jack Sughrue
Box 459
East Douglas, MA 01516



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156 Collingwood Ave.
Columbus, OH 43213

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Over 120 original programs in Basic and Extended Basic, available on cassette or disk, NOW REDUCED TO JUST \$1.00 EACH!, plus \$1.50 per order for cassette or disk and PP&M. Minimum order of \$10.00. Cassette programs will not be available after my present stock of blanks is exhausted. The Handy Dandy series, and Color Programming Tutor, are no longer available on cassette. Descriptive catalogs, while they last, \$1.00 which is deductible from your first order.

Tigercub Full Disk Collections, reduced to \$5 postpaid. Each of these contains either 5 or 6 of my regular catalog programs, and the remaining disk space has been filled with some of the best public domain programs of the same category. I am NOT selling public domain programs - they are a free bonus!
TIGERCUB'S BEST, PROGRAMMING TUTOR, PROGRAMMER'S UTILITIES, BRAIN GAMES, BRAIN TEASERS, BRAIN BUSTERS!, MANEUVERING GAMES, ACTION GAMES, REFLEX AND CONCENTRATION, TWO-PLAYER GAMES, KID GAMES, MORE GAMES, WORD GAMES, ELEMENTARY MATH, MIDDLE/HIGH SCHOOL MATH, VOCAB-

ULARY AND READING, MUSICAL EDUCATION, KALEIDOSCOPES AND DISPLAYS

NUTS & BOLTS DISKS

These are full disks of 100 or more utility subprograms in MERGE format, which you can merge into your own programs and use, almost like having another hundred CALLs available in Extended Basic. Each is accompanied by printed documentation giving an example of the use of each. NUTS & BOLTS (No. 1) has 100 subprograms, a tutorial on using them, and 5 pp. documentation. NUTS & BOLTS No. 2 has 108 subprograms, 10 pp. of documentation. NUTS & BOLTS #3 has 140 subprograms and 11 pp. of documentation. NOW JUST \$15 EACH, POSTPAID.

TIPS FROM THE TIGERCUB

These are full disks which contain the programs and routines from the Tips from the Tigercub newsletters, in ready-to-run program format, plus text files of tips and instructions. TIPS (Vol. 1) contains 50 original programs and files from Tips newsletters No. 1 through No. 14. TIPS VOL. 2 contains over 60 programs and files from Nos. 15 thru 24. TIPS VOL. 3 has another 62 from Nos. 25 through 32. TIPS VOL. 4 has 48 more from issues No. 33 through 41. NOW JUST \$10 EACH, POSTPAID.

```

#####
      NOW READY
#####
TIPS FROM TIGERCUB VOL.5
#####
Another 49 programs and
#####
files from issues No. 42
#####
through 50. Also $10 ppd
#####

```

TIGERCUB CARE DISKS #1, #2, #3 and #4. Full disks of text files (printer required). No. 1 contains the Tips newsletters #42 thru #45, etc. Nos. 2 and 3 have articles mostly on Extended Basic

programming. No. 4 contains Tips newsletters Nos. 46-52. These were prepared for user group newsletter editors but are available to anyone else for \$5 each postpaid.

If you have ever used TRACE to debug a program, you know that it won't dump to a printer, and that it messes up the screen format. The new Super Extended Basic, or the Brain Kracker, will dump to the printer, but you still won't know what is going on line by line or within multiple-statement lines. Now, Supertrace will break the program into single-statement lines and TRACE each statement in the corner of the screen, or dump it to the printer, or both - and you can also pause at any time, or step through line by line.

```

100 GOTO 140
110 SET,C%,END%,Z%,E%,K%,S%,
K,S,IF%,OF%,Q%,FL,TL,M%,LN,L
N2,P,T,LN%,A%,R,P%,Q%,PD%,KC
,KC%
120 CALL CHAR :: CALL CLEAR
:: CALL COLOR :: CALL SCREEN
:: CALL KEY :: CALL SOUND
130 !@P-
140 CALL CHAR(94,"3C4299A1A1
99423C"):: CALL CLEAR :: FOR
SET=1 TO 14 :: CALL COLOR(S
ET,13,15):: NEXT SET :: CALL
SCREEN(13)
150 C%=CHR$(157)&CHR$(200)&C
HR$(1)&"A"&CHR$(183)&CHR$(20
0):: END%=CHR$(255)&CHR$(255
):: Z%=CHR$(131)&CHR$(147)&C
HR$(154)&CHR$(163)
160 E%=CHR$(0):: K%=CHR$(182
):: S%=CHR$(130)
170 DISPLAY AT(2,5)ERASE ALL
:"TIGERCUB SUPERTRACE": :^
Tigercub Software for free":
"distribution but no price o
rcopying fee may be charged.
" !programmed by Jim Peterso
n 1/88
180 DISPLAY AT(8,1):" Howeve
r, if anyone should feel mo
ved to send me a few bucks f
or the use of this program

```

```

, I would not be": "offended'
"
190 DISPLAY AT(15,1):"Jim Pe
tersen": "156 Collingwood Ave
": "Columbus, OH 43213"
200 DISPLAY AT(23,8): "PRESS
ANY KEY" :: DISPLAY AT(23,8)
:"press any key" :: CALL KEY
(0,K,S):: IF S=0 THEN 200
210 DISPLAY AT(2,1)ERASE ALL
:" Will break each program":
"line into single statement"
:"lines, unless they contain
"
220 DISPLAY AT(5,1):"an IF,
and add a CALL to a": "subpro
gram which will": "display ea
ch line number in": "the corn
er of the screen as"
230 DISPLAY AT(9,1):"it is b
eing executed, or": "will out
put it to a printer."
240 DISPLAY AT(13,1):" Progr
am must first be -": "RESeq
uenced to greater in-": "crea
ents than the number"
250 DISPLAY AT(17,1):"of sta
tements in any one": "line. I
recommend RES 100,20)": "an
d SAVED by": " SAVE DSK(file
name),MERGE"
270 DISPLAY AT(23,8): "PRESS
ANY KEY" :: DISPLAY AT(23,8)
:"press any key" :: CALL KEY
(0,K,S):: IF S=0 THEN 270
310 DISPLAY AT(23,8): "PRESS
ANY KEY" :: DISPLAY AT(23,8)
:"press any key" :: CALL KEY
(0,K,S):: IF S=0 THEN 310 EL
SE CALL CLEAR
320 DISPLAY AT(3,1):"INPUT F
ILENAME?": "DSK" :: ACCEPT AT
(4,4):IF% :: ON ERROR 330 ::
OPEN #1:"DSK"&IF%,INPUT ::
GOTO 340
330 CALL SOUND(300,110,0,-4,
0):: DISPLAY AT(6,1):"CANNOT
OPEN FILE!" :: RETURN 320
340 DISPLAY AT(6,1):"OUTPUT
FILENAME?": "DSK" :: ACCEPT A
T(7,4):OF% :: ON ERROR 350 :
: OPEN #2:"DSK"&OF%,VARIABLE
163,OUTPUT :: ON ERROR STOP
:: GOTO 355
350 CALL SOUND(300,110,0,-4,
0):: DISPLAY AT(9,1):"CANNOT
OPEN FILE!" :: RETURN 340
355 DISPLAY AT(9,1):" Progra
ms of more than 50": "sectors
in length may become": "too

```

```

long to run if you break": "a
nd trace all lines."
360 DISPLAY AT(15,1): "Break
all lines? (Y/N)" :: ACCEPT
AT(15,24)SIZE(1)VALIDATE("YN
"): Q# :: IF Q#="Y" THEN 390
370 DISPLAY AT(17,1): "From l
ine?" :: ACCEPT AT(17,12)VAL
IDATE(DIGIT): FL
380 DISPLAY AT(17,18): "To?"
:: ACCEPT AT(17,22): TL
390 DISPLAY AT(15,1): "TRACE
to 1": "": " (1) Screen": " (2)
Printer": " (3) Both" :: ACC
EPT AT(15,10)SIZE(-1)VALIDAT
E("123"): Q# :: IF Q#=1 THEN
405
400 DISPLAY AT(21,1): "Printe
r? P10" :: ACCEPT AT(21,10)S
IZE(-18): PD#
405 DISPLAY AT(3,1)ERASE ALL
: " Key code 1 allows the pro
-": "gram to run until you ho
ld": "down any key. It will b
e"
406 DISPLAY AT(6,1): "difficu
lt to execute CALL": "KEYs in
the program.": "": " Key code
2 requires a key": "to be pr
essed to execute"
407 DISPLAY AT(11,1): "each p
rogram line. You can": "step
through the program": "line b
y line, but this may": "be ve
ry slow if all lines"
408 DISPLAY AT(15,1): "are be
ing traced.": "": " Key code 3
does not allow": "stopping t
he program."
409 DISPLAY AT(20,1): "Key co
de? 1" :: ACCEPT AT(20,11)SI
ZE(-1)VALIDATE("123"): KC#10
IF KC=1 THEN KC#="CHR$(191)&C
HR$(192)&CHR$(200)&CHR$(1)&
0" ELSE KC#="CHR$(191)&CHR$(2
00)&CHR$(1)&1"
411 DISPLAY AT(12,7)ERASE AL
L: "Working line"
420 INPUT #1: M# :: IF M#="EN
D" THEN 570
430 LN=ASC(SEG$(M#,1,1))+256
+ASC(SEG$(M#,2,1)): IF Q#="
Y" THEN 440 :: IF LN<FL OR L
N>TL THEN PRINT #2: M# :: GOT
O 420
440 IF LN>LN2 THEN 460
450 DISPLAY AT(12,1)ERASE AL
L BEEP: "ERROR" RESEQUENCE PR
OGRAM TO": "GREATER INCREMENT
S AND TRY": "AGAIN." :: CLOSE

```

```

#1 :: CLOSE #2 :: STOP
460 LN2=LN :: IF POS(26,SEG$(
M#,3,1),1)<>0 THEN PRINT #2
: M# :: DISPLAY AT(12,19): LN
:: GOTO 420
470 P=POS(M#,5,3):: T=POS(M
#,CHR$(161),3):: IF T=0 THEN
500
480 IF P=0 THEN PRINT #2: SEG$(
M#,1,LEN(M#)-1)&S#&C#&CHR$(
LEN(STR$(LN)))&STR$(LN)&K#&
E# :: DISPLAY AT(12,19): LN
: GOTO 420
490 PRINT #2: SEG$(M#,1,P)&C#
&CHR$(LEN(STR$(LN)))&STR$(LN
)&K#&E# :: DISPLAY AT(12,19)
: LN :: LN=LN+1 :: GOSUB 690
:: M#="LN#&SEG$(M#,P+1,255)::
GOTO 430
500 IF P=0 THEN PRINT #2: SEG$(
M#,1,2)&C#&CHR$(LEN(STR$(L
N)))&STR$(LN)&K#&S#&SEG$(M#,
3,255):: DISPLAY AT(12,19): L
N :: GOTO 420
510 A#="SEG$(M#,1,P-1):: R=PO
S(A#,CHR$(132),3):: S=POS(A#
,CHR$(201),3)
520 IF R=0 THEN GOSUB 750 ::
GOTO 560
530 IF S=0 AND R<>0 THEN GOS
UB 700 :: GOTO 420
540 IF S<>0 THEN IF S-R<3 TH
EN GOSUB 750 :: GOTO 560
550 GOSUB 700 :: GOTO 420
560 LN=LN+1 :: LN2=LN :: GOS
UB 690 :: M#="LN#&SEG$(M#,P+1
,255):: P=POS(M#,5,3):: GOT
O 500
570 LN=29999 :: GOSUB 690 ::
PRINT #2: LN#&CHR$(131)&CHR$(
64)&CHR$(80)&CHR$(43)&CHR$(
0)
580 LN=30000 :: GOSUB 690 ::
PRINT #2: LN#&CHR$(161)&CHR$(
200)&CHR$(1)&"A"&CHR$(183)&
"I"&K#&E# :: IF Q#=1 THEN 63
0
590 LN=30001 :: GOSUB 690 ::
P#="LN#&CHR$(132)&"F"&CHR$(1
90)&CHR$(200)&CHR$(1)&"O"&C
H
R$(176)&CHR$(159)&CHR$(253)&
CHR$(200)&CHR$(3)&"250"
600 P#="P#&CHR$(181)&CHR$(199
)&CHR$(LEN(PD#))&PD#&CHR$(13
0)&"F"&CHR$(190)&CHR$(200)&C
H
R$(1)&"1"&S#&CHR$(156)&CHR$(
253)&CHR$(200)&CHR$(3)&"250"
&CHR$(181)&CHR$(214)
610 P#="P#&CHR$(183)&CHR$(200
)&CHR$(21)&"27"&K#&CHR$(184)&

```

```

CHR$(199)&CHR$(1)&"M"&CHR$(1
84)&CHR$(214)&CHR$(183)&CHR$(
200)&CHR$(1)&"6"&K#&E# :: P
RINT #2: P#
620 LN=30002 :: GOSUB 690 ::
PRINT #2: LN#&CHR$(156)&CHR$(
253)&CHR$(200)&CHR$(3)&"250"
&CHR$(181)&"X"&CHR$(180)&E#
630 IF Q#=2 THEN 650
640 LN=30003 :: GOSUB 690 ::
PRINT #2: LN#&CHR$(162)&CHR$(
240)&CHR$(183)&CHR$(200)&C
H
R$(2)&"24"&CHR$(179)&CHR$(20
0)&CHR$(1)&"1"&K#&CHR$(181)&
"X"&CHR$(180)&E#
645 IF KC=3 THEN 670
650 LN=30004 :: GOSUB 690 ::
P#="LN#&CHR$(157)&CHR$(200)&
C
H
R$(3)&"KEY"&CHR$(183)&CHR$(
200)&CHR$(1)&"O"&CHR$(179)&
"K"&CHR$(179)&"S"&K#
660 P#="P#&CHR$(130)&CHR$(132
)&"S"&K#&CHR$(176)&CHR$(201
)&CHR$(INT(LN/256))&CHR$(LN-
256*INT(LN/256))&E# :: PRINT
#2: P#
670 LN=30005 :: GOSUB 690 ::
PRINT #2: LN#&CHR$(168)&CHR$(
0):: PRINT #2: CHR$(255)&C
H
R$(255)
680 CLOSE #1 :: CLOSE #2 ::
DISPLAY AT(12,1)ERASE ALL: "E
nter NEW": "Then Enter": "
MERGE DSK"&OF# :: END
690 LN#="CHR$(INT(LN/256))&C
H
R$(LN-256*INT(LN/256)):: RET
URN
700 IF LEN(M#)>150 THEN 720
:: PRINT #2: SEG$(M#,1,2)&C#&
C
H
R$(LEN(STR$(LN)))&STR$(LN)
&K#&S#&SEG$(M#,3,255)
710 DISPLAY AT(12,19): LN ::
RETURN
720 PRINT #2: SEG$(M#,1,2)&C#
&CHR$(LEN(STR$(LN+1)))&STR$(
LN+1)&K#&E#
730 DISPLAY AT(12,19): LN
740 LN=LN+1 :: PRINT #2: CHR$(
INT(LN/256))&CHR$(LN-256*IN
T(LN/256))&SEG$(M#,3,255)::
DISPLAY AT(12,19): LN :: LN2=
LN :: RETURN
750 PRINT #2: SEG$(A#,1,2)&C#
&CHR$(LEN(STR$(LN)))&STR$(LN
)&K#&S#&SEG$(A#,3,255)&E# ::
DISPLAY AT(12,19): LN :: RET
URN
This "tinygram" might give
you a surprise. SAVE it

```

before you run it.

```

100 CALL CLEAR :: CALL KEY(3
,K,S):: ON BREAK NEXT ! by J
im Peterson
110 DIM CH$(26):: FOR J=1 TO
26 :: CALL CHARPAT(J+64,CH$(
J)):: NEXT J :: FOR J=1 TO
26 :: CALL CHAR(J+64,CH$(27-
J)):: NEXT J
120 DISPLAY AT(3,8): "MZNW ZM
ZOBAVI": "": "6SRH KILTIZM DRO
D ZMZOBAV BLFI MZNV."
130 INPUT "BLFI MZNV? ": M# :
: CALL SOUND(200,110,0,-4,0)
:: X=X+1 :: IF X<2 THEN 130
140 DISPLAY AT(12,1): "ZMZOBH
RH - ": "": "VRGSVI BLF XZM'6
HKVDD BLFI LDM MZNV LI MLYLM
B XZM KILMLFMXV RG."
150 GOTO 150

```

Here's another tinygram that might help you editors who reformat my Tips to wider column widths.


```

100 DISPLAY AT(3,6)ERASE ALL
: "TIGERCUB UNFILLER": "": " To
remove extra spaces from": "
a TI-Writer text which has":
"been Filled and Adjusted by
"
110 DISPLAY AT(8,1): "the For
matter, prior to": "reformatt
ing.": " It will, however, al
so": "remove paragraph indent
a-": "tions and other intende
d": "spacings."
120 DISPLAY AT(15,1): "Input
file? DSK" :: ACCEPT AT(15,1
6): IF# :: OPEN #1: "DSK"&IF#,
INPUT
130 DISPLAY AT(17,1): "Output
file? DSK" :: ACCEPT AT(17,
17): OF# :: OPEN #2: "DSK"&OF#
140 INPUT #1: M#
150 X=POS(M#," ",1):: IF X=
0 THEN PRINT #2: M# :: GOTO 1
70
160 M#="SEG$(M#,1,X)&SEG$(M#,
X+2,255):: GOTO 150
170 IF EOF(1)<>1 THEN 140 ::
CLOSE #1 :: CLOSE #2

```

MEMORY AMOST FULL....

Jim Peterson





GETTING THE MOST FROM YOUR CASSETTE SYSTEM
BY MICKEY SCHMITT
NUMBER 6
CASSETTE - TIPS - TRICKS - AND TIDBITS
PART II

(Ed. note: Thanks to Mickey Schmitt and West Penn 99'ers Club)

THIS MONTH I AM CONTINUING WITH THE TOPIC OF CASSETTE - TIPS - TRICKS - AND TIDBITS... AS I TRY TO PASS ALONG MORE OF WHAT I'VE LEARNED THE HARD WAY... AND WHAT I'VE LEARNED FROM MY FELLOW T.I. FRIENDS.

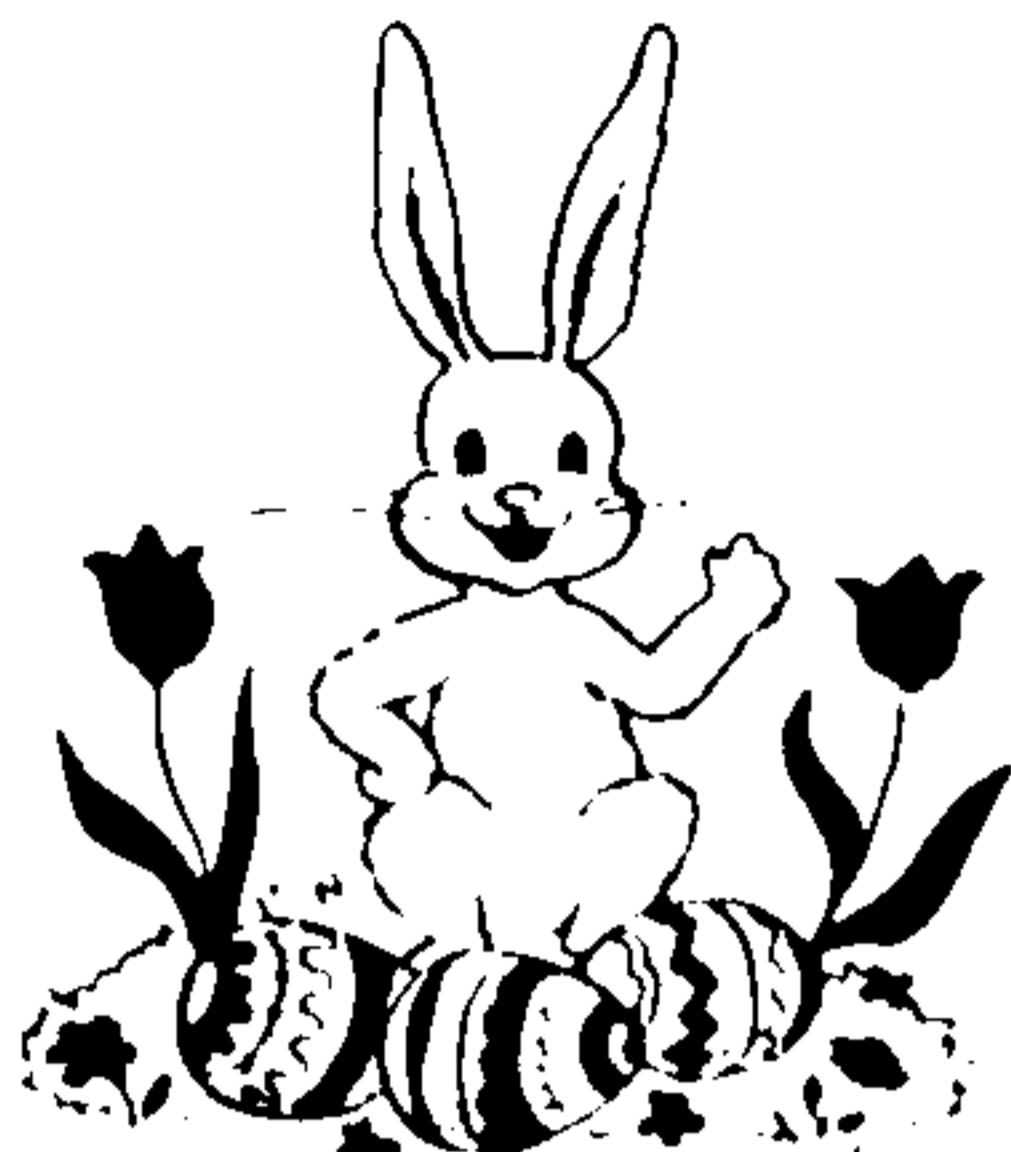
IN KEEPING WITH THE SPIRIT OF LEARNING FROM ONES OWN MISTAKES... I WOULD HIGHLY RECOMMEND USING THE FOLLOWING GUIDELINES - WHEN YOU ARE WORKING WITH YOUR CASSETTE SYSTEM.

WHEN SAVING YOUR PROGRAMS ONTO A CASSETTE - YOU SHOULD GET INTO THE HABIT OF RECORDING THEM ONTO A COUNTER READING WHICH ENDS IN A ZERO. THIS MAY SOUND LIKE AN UNNECESSARY PROCEDURE TO FOLLOW AT FIRST - BUT LET ME ASSURE YOU THAT IT IS A VERY GOOD HABIT TO GET INTO - AS IT ACTUALLY SERVES TWO USEFUL PURPOSES. FIRST... IT WILL MAKE IT MUCH EASIER TO LOCATE A PROGRAM ON YOUR CASSETTE TAPE - AS YOU ARE WATCHING THE COUNTER READING SPEED BY - AND SECOND... (AND FAR MORE IMPORTANT) IT WILL ALLOW YOU SOME ADDITIONAL BLANK SPACE BETWEEN YOUR PROGRAMS. THAT WAY YOU CAN MAKE CHANGES ON A PROGRAM - AND THEN SAVE IT BACK ONTO YOUR CASSETTE - AT THE SAME TAPE LOCATION AS THE ORIGINAL WAS LOCATED - WITHOUT ACCIDENTLY WRITING OVER THE FIRST PART OF THE FOLLOWING PROGRAM - OR THE ENDING OF THE PRECEEDING PROGRAM! BELIEVE ME... I LEARNED THIS THE HARD WAY. IF YOU DON'T GIVE YOURSELF A LITTLE EXTRA ROOM TO WORK WITH - YOU RUN A VERY HIGH RISK OF OVERWRITING YOUR PROGRAMS WHEN YOU TRY TO SAVE THEM BACK OVER YOUR ORIGINALS!

IF YOU HAVE A CASSETTE TAPE THAT YOU WISH TO KEEP PERMANENTLY - AND ARE AFRAID THAT YOU MAY ACCIDENTLY RECORD OVER IT - YOU CAN BREAK OUT THE LEFT REAR TAB OF THE SIDE OF THE CASSETTE THAT YOU WANT TO SAVE - OR YOU CAN BREAK OUT BOTH TABS IF YOU WISH TO SAVE BOTH SIDES OF THE CASSETTE. FOLLOWING THIS PROCEDURE WILL PREVENT YOU FROM ACCIDENTLY RECORDING OVER YOUR PROGRAMS. IF HOWEVER - YOU DECIDE AT A LATER TIME THAT YOU WOULD LIKE TO RECORD OVER A CASSETTE THAT HAS HAD ITS TABS BROKEN OUT - ALL IS NOT LOST. A PIECE OF CELLOPHANE TAPE PLACED OVER THE TAB OPENING - WILL ALLOW YOU TO ONCE AGAIN RECORD PROGRAMS ONTO THE CASSETTE.

ONE OF THE MOST IMPORTANT THINGS THAT I HAVE LEARNED ABOUT CASSETTE TAPES IS THAT IF YOU DON'T KEEP UP WITH THEM - YOU START TO COLLECT ALOT OF JUNK. THIS "JUNK" THAT I AM REFERRING TO - IS THE MANY BITS AND PIECES AND PARTS OF PROGRAMS THAT WERE SAVED WHEN YOU WERE CREATING OR USING A PROGRAM. ONCE YOUR FINAL PROGRAM IS COMPLETED - GET RID OF ALL YOUR "JUNK" SAVES! IF YOU DON'T DO IT RIGHT AWAY YOU'LL FORGET ABOUT IT - AND THE NEXT THING YOU KNOW - YOU START SAVING NEW PROGRAMS ONTO A CASSETTE THAT IS FULL OF "JUNK" - AND THEN YOU END UP HAVING TO WASTE ALOT OF VALUABLE TIME - CHECKING AN ENTIRE CASSETTE - JUST TO FIND OUT WHAT'S WHAT! ONCE A "JUNK" TAPE HAS SERVED ITS PURPOSE - RECORD OVER IT - WITH A VOLUME SETTING OF ZERO. THAT WAY THE "JUNK" WILL BE ERASED - AND YOU WON'T HAVE TO WONDER IF THAT PARTICULAR PROGRAM - OR TAPE - WAS IMPORTANT ANYMORE!

NEXT MONTH'S TOPIC WILL BE CLYDE COLLEDGE'S: HIGH-SPEED CASSETTE LOADER. THIS IS A MOST IMPRESSIVE BREAKTHROUGH FOR THOSE OF YOU WHO ARE STILL USING A CASSETTE SYSTEM. DON'T MISS IT!!!



T. I. WRITER
Part 7
Stan Katzman



(Ed. note: Thanks to Stan Katzman and the West Penn 99er's Club).

Well now, let's discuss "A Moving Experience" (T.I. Writer Manual, page 36). Move (M) is a command that allows one to move blocks of text from one place in the document to another.

This command uses the line numbers also, so it might be more convenient if there is a printed copy of the document with the line numbers printed also. (This was discussed earlier; L PIO).

This is kind of a complicated process, so let's start. First isolate the block of text that you want to move. You do this by placing the cursor at the start of the text you want to move and then enter "Ins Char" (FCTN 2) and split the line, then do the same for the end of the text. Now place the cursor where you want the text to be moved and enter "Ins Char" again. Now go to Command Mode and enter L. At this point you will see "Move, Copy, Delete or Show Lines:", now enter M. At this point you will see "MOVE start line, stop line, after line:". Now you enter the line number of the start of the block of material you want to move, a space, the line number at the end of the text you want to move, a space, and the line number where you want the text block moved to. (If you remember, these were defined by the "Ins Char" markers.) Now reformat the text accordingly and you have moved the text to where you wanted to. There is a minor catch to this and that is you cannot have a full text buffer because this movement of text uses some memory while things are being moved.

This does not complete all the possible things that you can do in the Editor, but I think that they are the most important. If we master these (when we need them) then I feel that the rest can be picked up just by reading the T. I. Writer Manual. This I feel is a good word processing program and to the best of my knowledge the only thing I would change in the Edit Mode is to add a permanent display at the top or bottom of the screen showing the margin scale and their settings.

This is a fairly short session. The next time we will start talking about the Text Formatter.

LIMA MULTI USER GROUP CONFERENCE AND SWAP MEET

This big event is scheduled for Saturday 21 May 1988 on the Lima Campus of Ohio State University. Exit Interstate 75 at route 309 and go 2 miles east on 309. Turn left (North) at the sign onto Mumaugh Road. The campus entrance is 0.5 miles north of this intersection on the right. Meet in the Student Activity Building and there is plenty of free parking near the building. There is no on campus food service on Saturdays, but plenty of pop vending machines next to the exhibit area and lots of fast food restaurants a couple of miles away. Contact the Lima User Group for information about motels etc.

LIMA AREA TI 99/4A USER GROUP
C/O DAVE SZIPPL (president)
4 POULSTON PLACE
LIMA, OH 45805
(419) 228-7109

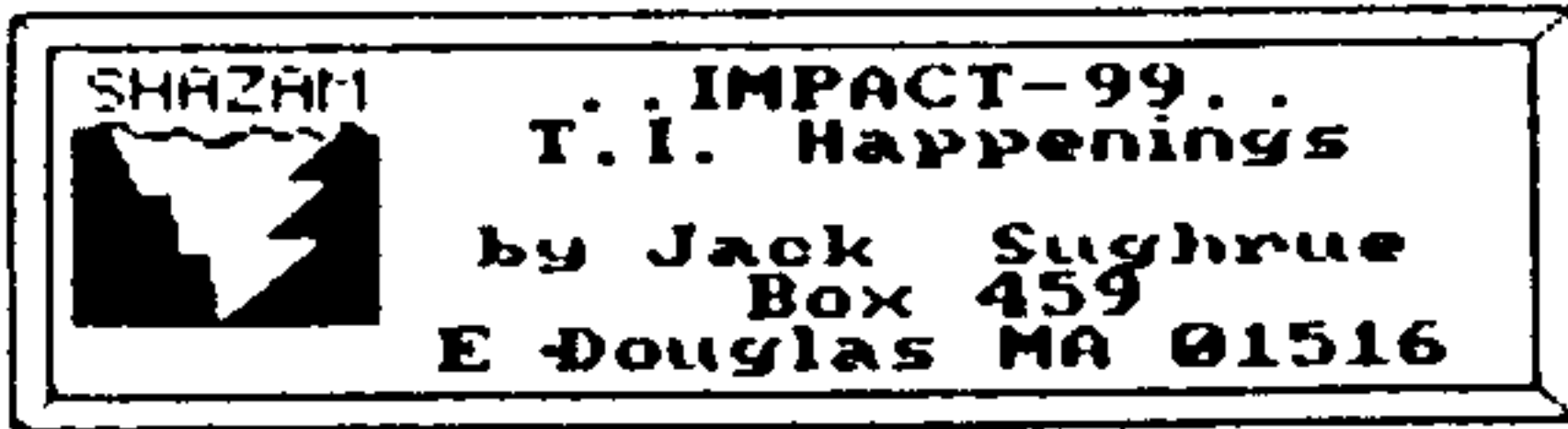
Hours: 8 AM to 6PM. NO admission or exhibition charge for those attending or giving demonstrations.

CONFIRMED COMMITMENTS TO DATE!!!!

GENEVE demonstration - JIM PETERSON demo of his Nuts & Bolts programs - IRWIN HOTT demonstrating how the blind can use the 99/4A - DICK BEERY demonstrating Walt Davies GENE III genealogy program - JOHN PARKINS demonstrating "HOW TO TURN YOUR VCR INTO A PRINTER" - A GENEVE 9640 computer will be demonstrated by a member of the New Horizon User Group.

The C.O.N.N.I. USER GROUP will have a booth where we will be selling library disks, Disk of the Month, extra newsletters and handing out flyers. SUPPORT YOUR CLUB, come to LIMA and HELP. Call and give your name to Dick Beery (459-3597) if you are planning to attend and are willing to support C.O.N.N.I. by working at the club booth for a unit of time. The more members that agree to assist the shorter the time each one will work.





GOOD OLD DAYS

PART I: ANCIENT RITES

"Long, long ago in a world far away...."

In the computer world, the "Good Old Days" are measured in minutes, not in decades (as with real life). So in a real-life decade, the computer world has lived eons.

Public broadcasting ran an hour-long program called "Computer Graphics" a few months ago. It assaulted the senses; it was so mind-boggling. These incredible graphics were used for media, manufacturing, medicine, mere fun, and MIT (the Massachusetts Institute of Technology), where some of the most advanced computer activities in the world are going on, including a 64 x 64 x 64-foot total computer environment which is simply called The Cube. But the research on Artificial Intelligence performed by some of these most creative scientific geniuses on Earth is where the limits of imagination cease to exist. There are other technical institutes in America and worldwide (particularly in Japan) that are investing large amounts of time and money in AI development. The world is already a completely different one for us than it is for these unusual folk. Reading about the fascinating AI future is the most flabbergasting reading I've ever done. (And it gave me an opportunity to finally use "flabbergasting" in a sentence.)

There is nothing in our lives today that doesn't have a computer relationship. There will be nothing in our future that will not contact computers in some way. All "things" such as books, beds, bowling balls, and bananas have to be shipped and stored and sold and bought. Computers. Optimum growing and harvesting time (bananas and the wood for beds and books) are computerized. Computers help design books and bowling balls and beds and help in the manufacturing.

A walk in the country? Well, unless you live next to the place of the walk (in a house with VCRs, TVs, microwaves), you have to drive in a car (with computerized engineering) to even get to it.

I really tried to think of something in my life that is not affected by computers. I have a library of old P.G. Nodehouse books written, I'm certain, on mechanical typewriters and set by typesetting machines and printed on mechanical presses and bound by mechanical equipment -

all from the 50s and 60s.

Now, if I read any of these books at night at home, I realize some computer is sending me energy and keeping tabs of how much I use.

But, if I squeeze into an old pair of dungarees from my middle-age (pre-computer manufacture) and, barefoot and barechested, go lie on our lawn in the sun to read as humans were intended to, I have the nagging sensation that I'm not fully out of the computer world yet. I try to ignore the cars driving by, the planes flying overhead, the sounds of some silly teenyboppers bopping down the street blaring their silly noises through a boom box.

And, eventually, Nodehouse captures me, and I am computer-free for a few hours.

Maybe.

If the phone doesn't ring; if the neighbor doesn't start up the thundering smoke machine he calls a lawn mower; if nobody offers me a cool, refreshing beer (grown, harvested, processed, canned, delivered, advertised, and sold by our friend, the computer).

Maybe then.

But all this sounds like I don't love my computers. I do. I DO! If they are taking over the world, as I'm certain they are after reading some of the latest AI books, then I want them to know I am on their side!

All this thinking about how quickly and completely computers invaded our lives began at the last meeting of our N.U.M.C.H. User Group. One of our new members (Yes, we are getting new members!) asked what life was like in the old days of the club. Well, the 4/A hasn't existed for a decade yet, so I didn't have any trouble recalling.

Before the 4/A existed, I generously loaned me a chicklet-key 99-4 to use for a year in my 5th-grade classroom. We probably had the first computer in an elementary classroom in America. It was great! The kids and I learned to have the computer do calculations. (The 4 had a calculator built in as one of the original screen options.) We learned how to make the computer fill up the screen with our names. We learned to delay with FOR/NEIT. Things like that. There was no software at all and only a xeroxed attempt at a manual.

But it was fun. And very difficult! (I hear the chuckles out there. Think for a minute. NOBODY had a computer. No library. No small business. No stores. No schools. No homes. Making your name come up on the screen was no easy task at first. Still, it was better than watching the test pattern on TV for hours when TVs first came out, but that is another story.) I think it was a 4K prototype. Black and white TV. I can't recall sound.

When I finally bought my first TI, I was floored by the features and by the wonderful keyboard. As a touch-typist I found it much more convenient than the chicklets or the membranes on those early computers (though it still took me an awfully long time to master the peculiarities of it).

The features! For one, it had great things built into it that I didn't recall or learn from the 4: NUM, RES, all those sub calls (SOUND, COLOR, etc.) that still make the 4/A one of the easiest programming computers ever to be made (though its unique BASIC caused many translation problems). It's biggest feature for me (as I still had a black and white TV and hadn't yet received my synthesizer free for buying six cartridges) was the ability to save the programs. A tape recorder. We lost everything on the 4 when we shut it off, but now everything could be saved. The manual even had programs we could type in free.

The manual, "Beginner's BASIC, was, to me, one of the most lucid, exciting tutorials I have ever seen. I can still recall the sense of accomplishment and wonder and awe I felt when I was able to create the stick figure and make it move. It was called "Mr. Bojangles," crude block graphics that alternated to create the illusion of movement. To me it was a crowning achievement of some kind.

I called my family in to see what I had done. The four kids looked and sailed and left. My wife appeared incredulous.

"Don't you like it?" I asked.

"You paid over \$500 and have been up here every night for three months for THIS?"

She missed the point, I think. She was never one to understand compulsive/obsessive behavior. It doesn't run in her family.

Ah, well.

And I saved the program. I still have it. I just got up and pulled it out of the box of tapes in the corner of my computer room. It's called "Dancing Man," but I don't think I'll load it and run it. I'd rather remember things my own way.

I wonder if most of the young techie-whiz types who started off at the same time I did with the TI ever went through those infant and pre-school stages or if they just leaped into techiehood.

One of those types - a young man by the name of Bernie Miller - and I were in M.U.N.C.H. way back when. We both had our B&W TVs and tape recorders and we both had typed in the manual. He had been a charter subscriber to the old "99er" magazine, and I had bought an early book of programs by C.W.Engel, called "Stimulating Simulations for the TI-99/4A." Just seeing my computer's name on the cover of a book gave me a thrill the way we VW Beetle owners used to feel when a fellow Beetle driver would pass and toot in the early days of very few Beetles. A fellowship was being formed.

This was long before the big 1983/4 publishing boom for TI, when about 90% of all the 100-plus TI books were published. This is before Extended BASIC.

Bernie said he would type in some of the programs from "99er" and we could both try them out. I said I'd

do the same for the Engel book. It was a great learning experience for both of us, as the listings were not always very accurate. (Engel had done translations, so many BASIC terms were inaccurate.) Typing, trying to figure out what the weird stuff meant, looking up examples in the manual and reference book that came with the console, discussing the problems, and SOLVING the problems to create a finished, working program, was a fine thing to do. (Bernie did most of the solving, but I did a lot of the learning which he seemed to absorb from the air without effort.) I don't think this is a process most home-computer owners go through anymore. Too bad. It was a wonderful way to discover the depths of the computer and of oneself.

One day, almost a year, after Bernie and I started working as a team during our M.U.N.C.H. meetings and at each other's houses a couple times, Bernie announced that we had "over 100 programs!" Granted, a lot of them were simple screen graphics or variations of The Dancing Man, Guess The Computer's Number, and How To Abortize A Loan, but we did it! We had over 100 files and were thrilled.

And we had begun to put our own stamp on those programs. The flashes and whistles, as we learned how to use the techniques of animation and music and color (though I hadn't yet gotten a color TV).

I brought the computer back and forth to school and started to write flashcard programs for my class. With lots of glitter. My kids at home and at school began to take to it.

My two sons helped me debug programs. They began to see things I missed. I saw things as an English-major proofreader. They saw things as computer programmers would see them: symbols or patterns that didn't make sense; even electronic punctuation, which was so different from English.

Then I realized (this is in 1982/3 - and I had bought a second computer "for the kids" at home and a third for my classroom -) that I was of a different age, maybe an entirely different species. These youngsters had no awe of the computer. It did not fill them with wonder. And, though they would all do so much more with the computer than I could dream of, they wouldn't have so much fun doing it. To them, Neil Armstrong's stepping on the moon while I watched it live in my bedroom on another world in the wee hours, was no big deal. Neither is a computer.

To them.

It still fills me with awe and wonder.

(This is the first of three personal recollections about the 4/A's "Good Old Days" as seen through the eyes of a honest-to-goodness non-techie.)

POOR PERSONS' AB SWITCH

by Dallas Phillips

This article was written for Kentuckiana Tidbits and the Bluegrass Bytemonger newsletters. It first appeared in the January '88 issue of Tidbits.

Several people have told me they would like to construct their own AB switches. This article may be the answer.

An AB switch simply switches something from position A to position B. It doesn't get any simpler than that. Away back in BC (Before Computers) they were called transfer switches.

Most computer AB switches are designed to enable you to use two computers with one printer or one computer with two printers, without unplugging and re-connecting them every time you change. They are available with either Sub-D serial or with Centronics parallel connectors. One problem with the commercial units is that they have all female connectors so you still have to purchase or assemble, at least, two expensive cables. Another problem, for people like me, is that they normally sell for some figure between \$95.00 and \$45.00. If you just buy the switch and two "PIO" cables you could pay up to \$150.00 but, to be honest, there are places that sell the AB switch for \$22.50 and the cables for \$12.00 each, plus tax and shipping. ABC switches are also available, if you need them.

If you need to switch two computers to a single printer you will do well to buy a factory assembled unit. No home computer or printer uses all 36 connections but different computers and different printers use different pins so all 36 pins are switched to avoid any mixup. If you switch all pins you must use a 36 circuit two position switch or equal. Of course, by doing a little research and custom building a unit that may work only with your setup you can get by for quite a bit less but the components will usually cost considerably more than one of the lowest priced commercial units.

(Thanks BLUEGRASS UG March 1988)

If you need to switch one computer to two printers the story is entirely different. ANOTHER TI-99/4A ADVANTAGE is that, if you are using one TI computer and any number of parallel printers they can be switched with a two pole switch! The reason is that the TI only uses the BUSY signal, from the printer, as its Handshake IN. It does not need an ACK signal. The strobe line, the eight data lines and the ground do not need to be switched, they can be wired in parallel. We must switch the BUSY signal line and we cannot mix the +5V pull up signals so, if either of your printers need the pull-up voltage, we must switch that line too. All it takes, for AB switching, is a DPDT switch!

If all parts are purchased, new and you use your present printer cable to come from the RS-232 connector, you should be able to build this professional looking set-up for under \$20.00, including the cables to both printers and almost everything can be bought at Radio Shack. If you have ever built any other electronic devices you will probably have some of the "stuff" so you will not have to buy all of the parts listed here.

CONSTRUCTION

Start by obtaining all of your components. There is nothing worse than cutting a case to fit parts that are different from the ones you cut and drilled for. Do your layout with a grease pencil or sharp crayon. Center punch all holes then drill all holes with the 3/16" bit, first. The switch hole should be in the center of the front. The screw holes are evenly spaced across the bottom but they should be positioned so your terminal strips will be located to the rear, to allow sufficient room for the switch. The three holes for the cables should be evenly spaced across the back. See Figure 2. Exact spacing dimensions are not given because your components may be different from the ones I used.

When the holes are drilled, insert the grommets and mount the terminal strips. Mount the switch, turned across the case, not up and down. See Figure 1. NOTE: Do not attempt to wire by Figure 1. It is a pictorial that was drawn only to show positioning of components and general routing of the wiring.

The schematic is shown in Figure 3. It should be readable but the connections are also listed here. NOTE: A FEW PRINTERS HAVE SOME NON-STANDARD CONNECTIONS. IF YOU HAVE ONE OF THESE PRINTERS, CHECK THE CONNECTIONS IN YOUR WORKING CENTRONICS CONNECTOR OR REFER TO YOUR PRINTER'S MANUAL FOR PROPER CONNECTIONS.

CONNECTIONS

TI OUT:

TI pin	Switch box term
1	to 1
2	to 2
3	to 3
4	to 4
5	to 5
6	to 6
7	to 7
8	to 8
9	to 9
10	to Center of switch pole 1
11	to 16 (ground)
12	to Center of switch pole 2
13	to Not used
14	to Not used
15	to Not used
16	to 16 (ground)

A & B CENTRONICS PLUGS IN:

Switch Box term Centronics

1	to	1A & 1B
2	to	2A & 2B
3	to	3A & 3B
4	to	4A & 4B
5	to	5A & 5B
6	to	6A & 6B
7	to	7A & 7B
8	to	8A & 8B
9	to	9A & 9B
A side SW pole 1	to	11A
B side SW pole 1	to	11B
A side SW pole 2	to	13A
B side SW pole 2	to	13B
11	to	Not used
12	to	Not used
13	to	Not used
14	to	Not used
15	to	Not used
16	to	16A & 16B & 17A & 17B

Centronics pins 18 through 36 are not used with ribbon cable. If round cable is used the pairs from 1 to 9 are connected to pins 19 through 28 and all floating pins are grounded.

I have been using this switch for more than a year. It works perfectly, every time. It is a little tedious to build but it does a great job, for very little money.

I accidentally found that I can use both printers at the same time. I had been using the fastest printer and I started to use the other one. The switch was flipped just as the printer "ticked". Both printers worked fine. If it gets the BUSY from the slowest printer I can print two copies at the same time. I have no idea whether this will work with other printers but it works with my Brother HR-10 (LQ) and my Seikosha SP-1000.

PARTS:

Input cable: You can use your present cable and save the cost of the ribbon and two connectors. If you wish to keep your cable, I have several 16 PIN IDC Dual Inline Header Connectors with 0.1" spacing. (This is the small connector that comes from the RS-232 card.) The ones I have use the highest quality contacts (phosphor bronze, flashed with nickel, then totally gold plated). I also have some 38 conductor ribbon cable that can easily be ripped down to two 16s with a 6 left over. The connectors are \$1.50 ea or 5 for \$6.00. The cable is 20 cents per foot.

Dallas Phillips
Rt4 Box310 MtOlivet Rd.
LaGrange, KY 40031
(502) 845-7567 after 4:30pm.

The rest of the parts can be obtained from Radio Shack. NOTE: Several switches are listed. Select only one. I chose the one I used because of appearance.

Cabinet; Steel and Aluminum,
2 1/8"x3 1/4"x4". Cat #270-251 \$2.99
Centronics Parallel Connector; Male, w/solder connections. (Need 2 unless you use your cable.) Cat #276-1534 \$4.99
Switch; DPDT (I used this one.)
Cat #275-663 \$3.19
Switch; DPDT Cat #275-636 \$2.99
Switch; DPDT Cat #275-1546 \$2.79
Switch; DPDT Cat #275-614 \$2.39
Switch; DPDT Cat #275-625 \$1.99
Terminal Strips; Phenolic Cat #274-688 4/89c
Grommets; Pack of 35 asst Cat #64-3025 99c
Machine screws; 6-32 Pack of 42, asst length
Cat #64-3010 99c
Nuts; 6-32, Pack of 30 Cat #64-3019 99c

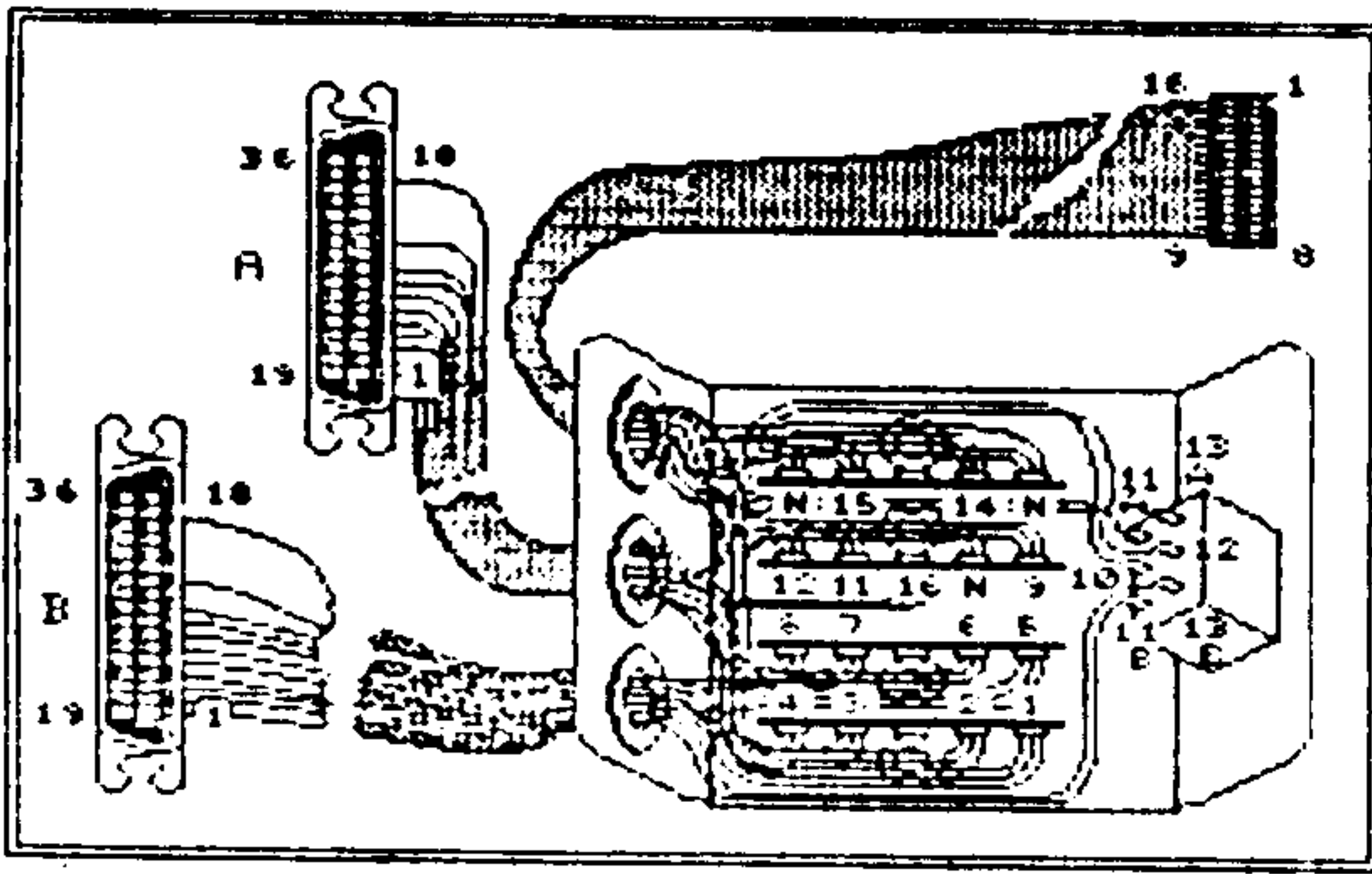


FIGURE ONE

FIGURE TWO

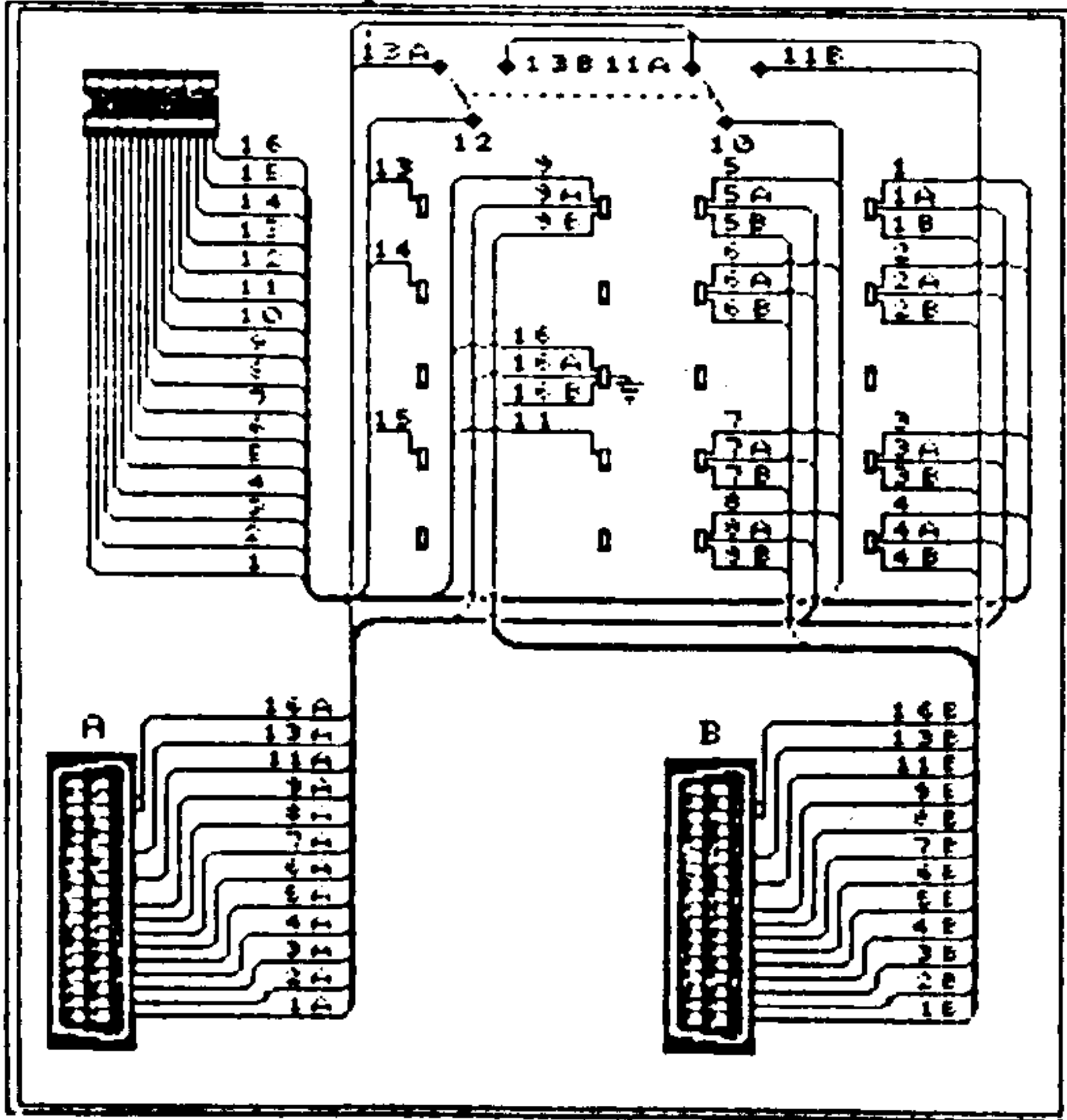
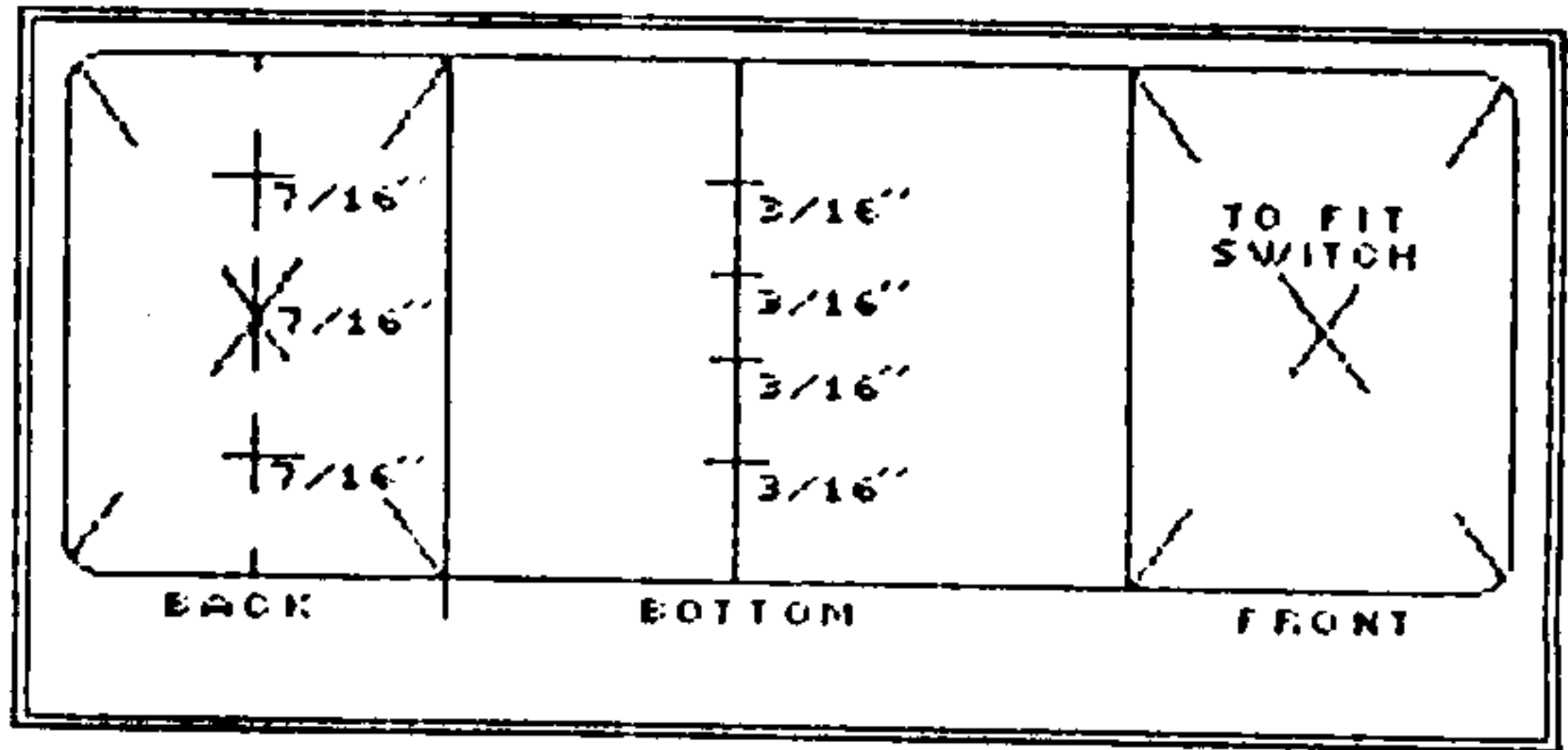


FIGURE THREE



**MEETING DATES
FOR
1988-1989**

C.O.N.N.I. BOARD MEMBERS

2ND SATURDAY
09 APR 1988
14 MAY 1988
11 JUN 1988
09 JUL 1988
13 AUG 1988
10 SEP 1988
08 OCT 1988
12 NOV 1988
10 DEC 1988
14 Jan 1989
11 FEB 1989
11 MAR 1989

Pres. - Dick Beery (614) 459-3597
Vice Pres. - Jim Seitz (614) 875-5532
Treas. - John Cummings (614) 766-0785
Sec. - Jere Singleton (614) 764-0642
Membership - Everett Wade (614) 262-6346
Librarian - Chuck Grimes (614) 268-8821
Cassette - Sonny Grubb
Cartridges - John Rupert
Newsletter Exchange - Curt Borders
TIBBS - Irwin Hott (614) 263-5319
Dick Beery (614) 459-3597
Editor- Jean Hall (614) 885-4223
Assist- Carol Parkins (614) 891-4965

3RD THURSDAY
21 APR 1988
25 MAY 1988
22 JUN 1988
27 JUL 1988
24 AUG 1988
28 SEP 1988



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CITY ----- STATE ----- ZIP -----
AREA CODE ----- HOME PHONE ----- BUSINESS PHONE ----- EXT# -----
WHAT IS YOUR PROFESSION/VOCATION -----
HOW LONG HAVE YOU OWNED YOUR COMPUTER -----
DATE OF APPLICATION ----- ACCEPTED BY -----