THE PUG PERIPHERAL

THE MONTHLY NEWSLETTER OF THE
PITTSBURGH USERS GROUP
NOVEMBER, 1988

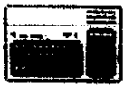
CLUB NEWS by Gary Taylor

The ribbon re-inker will be available at the next meeting. We have purchased 3 adapters that fit the following printers. NX-1000, Epson FX80 through LQ-800, Seikosia 1000 and 1200, and the small Panasonic cartridge. These adapters are actually different spindles that will fit the various ribbon cartridges. We have also purchased some additional black ink so that we won't run out for awhile. The ink is measured in drops and the 6 ounces that we bought will do approximately 150 ribbons. I have been advised by the supplier that it will take 15 to 20 minutes to do a standard MX-80 ribbon. So this is by no means a quick process if we are to do it right. We will be charging 1.00 to re-ink a ribbon and should be able to handle most of the cartridge type ribbons that are common in our club according to the survey we took at one of the meeting.

I would like to thank Lynn Gardner for helping out with the newsletter the last couple of months. Lynn has been helping Audrey and myself to collate and staple the newsletter together and has recently been re-typing some of the articles that you have been reading in the newsletter. Many articles we read in other newsletters need to be re-typed so that we can include them in our newsletter. Lynn has been doing much of this work and deserves a hand for her efforts. THANKS LYNN!

While I am thanking people, I would like to say thanks to Jim Alexander for stepping in for me when I can't be at the meeting. It's comforting to know that there is someone who can be relied upon to take over when I am not there. I got to the meeting late last month because of the TI FAIRE sponsored by the Central Pennsylvania User Group. Their President Dave Ratcliffe deserves at least two "ATTA BOYS" for a successful event. They did a real nice job of putting this faire together. The demonstration of "TRIAD" , a new memory resident terminal emulator, editor, and disk manager, was very impressive. Asgard Software was selling the new "PRESS" word processor. I did not get to see a demonstration but it was written by Charles Earl of TELCO fame. It will be demonstrated at the Chicago Faire by the author himself and I will have an opportunity to see it there and report back to you at the next meeting.
It would be nice to get all the TI User Groups in Pennsylvania together at the faire. I would like to see The Pittsburgh User's Group support the faire next year and encourage all members to suggest ways that we can participate. Sounds like a topic under new business to me.

While at the Faire I purchased two software packages that will be used as BINGO prizes in the near future. The first is "DISK OF DINOSAURS". This package, by Ken Gilliland, and sold by Asgard Software contains two diskettes. The fisrt diskette is called "Dinosaurland". The second is called "Instances". They contain 46 instances, 3 TI-Artist pictures, and 3 animated cartoon shorts. I will be demonstrating the cartoon shorts before the bingo game at the next meeting. The second package is called MACFlix and was written by J. Peter Hoddie. I mentioned this program in my last column as I had read about it in the newsletter of the Boston Computer Society. It is very



impressive. It will display and print pictures developed on the Macintosh computer. It will also convert them to TI-Artist format and MYart Format. It comes with a bonus disk of pictures that I will demonstrate at the next meeting as well. To verify that this program does what it says it does, I downloaded a MAC file from a local bulletin board which has a special area just for Macintosh Pictures. I used Telco 2.1 and the ymodem protocol. The file arrived as a DF128 file, which is the default file type when downloading a file other than one with a TI header record. The file was read by the MACFlix program exactly as I downloaded it. No conversion, no mess, no fuss. I am sure you will be impress with this program. I have arranged a special purchase with Genial Computerware and will provide a few copies at the next meeting at a reduced price.

Jim Horn, Sysop on Compuserve, has an article in the latest issue of Computer Shopper where he proposes a way of getting the thousands of TI-99/4A computers out of the closet and into full use. His proposal is to get these machines out of the hands of the non user and into the hands of users by having them donated as educational tools to schools all across the USA. His arguement for this proposal goes like this. The Schools with tight budget constraints can not afford to go out and purchase a classroom full of computers for their students. Yet there are literally millions of TI-99/4A computers that the owners have abondoned. By giving the donor the benefit of a tax deductible contibution, a school may be able to completelyfill there needs to get their computer literacy classes started. What do you think? Can we start something like this in the Pittsburgh area? I still have a listing of over 10,000 TI computer owners in our area. Perhaps we could get a program of donation and placement going here. His article states that there is a successful program like this in the Washington D.C. area.

Deanna Sheridan of the Northcoast 99'ers located in Cleavland, released a flippy disk she called XMAS/SPEC at the Lima, Ohio TI faire last spring. These disks contain 84 files, many are of Christmas graphics. Included are 25 transliteration files that will print graphics right in your word processing document. Let me show you how this works. I have merged the file TLWRTH from her disk into this document. Now everytime I hold down the FCTN key and press the letter G I get this ◎. I can enter as many ◎ function ◎ G's ◎ as I want and my printer will print a small wreath ◎. Neat huh? I thought the Chrismas tree ♣ was cute too. ♣ ♣ ♣ ♣ There will be several of these disks available at the next meeting. These disks are a Club fund raising project for the Northcoast 99'ers and they are asking a $5.00 shareware donation.

You will be noticing a change in the bulletin board program soon. We have received release 1.60 from Mike Kimble and Gene will be installing it soon. It will probably be installed before you read this, but if you haven't logged in for awhile, check it out.

I will be conducting a class on the Picasso Publisher in November. It will begin at 3:30 pm. There has been much controvery on the status of this program so I have not added it to the clubs library, until now, even though I have had a copy of it for over a year. It seems that release 1.1 and earlier (that's the one I have) are considered shareware and release 2.0 and above are copywrited. Release 2.0 can be purchased from Asgard Software.

```
▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪
▪                     ▪
▪  A PACKAGE FOR ME?  ▪
▪                     ▪
▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪
```

FORTH TO YOU TOO!

Session 4

You now have a system disk which autoboots the options you selected and before we do anything else, MAKE A BACKUP DISK! Believe me, this is no idle chatter. I have messed up quite a few disks with some ill-defined or -used word. While you are in the learning stage, making a backup is perhaps as important as getting familiar with Forth words and how they work. Take it from one who has spent a lot of time starting over (and over). Unlike TI-WRITER, Forth does not make an OOPS! available, only a @%(&^@! I have two drives and with my system disk in drive 1 (write protected!) I do all my programming on a disk in drive 2.

If you work with one disk drive, your best bet is to get a copy of Doug Smith's "3-PASS DISK COPIER". This clever 2-screen program was published in the June 84 issue of Miller's SMART PROGRAMMER. It's handy even if you have 2 drives, because it shortens the time required to copy a Forth disk. With 2 drives you can also use the word FORTH-COPY (provided you booted -COPY). The disk to be copied must be in drive 2 and the blank disk in 1. It takes approximately 1 sec/screen or a minute and a half to copy a disk. Since it is done a screen at a time your drives get a good workout. But be sure to initialize the disk first with n FORMAT-DISK, where n is the number of the drive you put the blank disk in. However, remember that Forth starts counting with 0 (zero). What you would normally call drive 1 is 0, 2 is 1, etc. 1 FORMAT-DISK initializes the disk in drive 2. In the last session I touched briefly on the SWCH and UNSWCH words of the -PRINT option. I know you'll have no trouble remembering them. SWCH n LIST UNSWCH will soon be as familiar to you as n EDIT. Try SWCH 3 LIST UNSWCH. If you didn't forget to turn your printer on you got a listing of screen #3. This is much easier to read then 3 LIST, because the lines are unbroken. Then there are TRIAD and TRIADS which are similar to LIST but have SWCH/UNSWCH built in. 31 TRIAD first looks for the next lower number than the on you gave which is divisible by three and then prints 3 screens. SWCH and UNSWCH are built in since you could not use TRIAD as a display command. TRIADS works the same way, except you specify a range of screens (n1 n2 TRIADS). It will print as many triads as are needed to cover the range you specified. Tricky, eh? But very neat: 3 screens per page. And one more: INDEX. It does not include SWCH/UNSWCH because it can be used on the display, too. But it is one of my favorite . n1 n2 INDEX lists the 0 (zero) lines of the screens from n1 to n2.(SWCH 0 89 INDEX UNSWCH will get you a printed index of your whole FORTH disk.) Like LIST it is really better in printed form, because on the display, which is limited to 40 columns, it is much harder to read and digest.

When you start programming, keep a printed INDEX of your disk on hand and make sure you use the Forth convention of identifying your screens on line zero. I not only like to name my programs but include the load options on line 0. Here is an example:

```
SCR 28
( DUMP DISPLAY TO PRINTER
( : GCHAR SCRN_WIDTH * + SCRN_START + VSBR ;
: ROWSCAN CR 40 0 DO I OVER GCHAR EMIT LOOP ;
: COLSCAN 25 0 DO I ROWSCAN DROP LOOP ;
: SCREEN-DUMP SWCH COLSCAN CR UNSWCH ;
```

I wrote this little routine to save my trials and tribulations before they scrolled off the display when working in the interactive mode. One of the beauties of Forth is the opportunity to try definitions from the keyboard in the so-called I/A mode. You can define a word (: ----- ;) and, before you use it in a program, see if it will do what you had in mind. The trouble is, as you keep trying various ways they disappear off the top of your display. Unless your memory is a lot better than mine, you will find SCREEN-DUMP a helpful addition to your Forth vocabulary. If -GRAPH is not part of your autoboot just remove the parenthesis from the GCHAR definition and it'll work without that load option. Since we either don't need -64Support or made it part of our autoboot, I saved this routine on scr #28, then added 28 LOAD on scr #3. SCREEN-DUMP is available anytime you need to invoke it.

RECAP

1. Make a backup of your working autoboot disk

2. -PRINT is one of the most useful load options. It provides some new words and makes some others more useful than they already are (LIST INDEX)

3. Save and load the SCREEN-DUMP routine. It will help you Get busy with Chapters 4 through 6 of STARTING FORTH. (You can skip 3 because the TI editor is much better than what Brodie describes.

```
: THATS-IT CLS ABORT ;

TI-FORTH ok
```

Lutz Winkler (509) 277-4437

End Session 4

DISK DRIVES (#3)

by John F. Willforth

Last month you received the basic schematic of a disk drive tester. This month, I'll describe the functions and give you a schematic for a power supply to drive the unit and the disk drive under test.

The large connector on the left (J1) is the ribbon cable that goes to the drive's logic board. The small connector to the right of center near the top (J2) is the power cable to the drive. Rotary switch (S1) is the unit select switch which will select the drive by the strapping you have set on the drive. MOTOR ON (S2) turns on the drive motor, makes it easier to test this associated circuitry in the drive, the DIRECTION of head stepping (S3), in or out, WRITE GATE control (S4), mode selector for the drive, WRITE DATA signal (S5) to the write circuitry in the drive logic, STEP in the DIRECTION selected (S6),provide write data for the WRITE DATA line (S7)when the WRITE GATE is enabled, and do all this on or to the SIDE selected (S8).

You can watch to see if you are getting INDEX pulses on D1. and if DATA read from the drive is present on D2, or see when the heads are at TRACK 00 on D3, and if the WRITE PROTECT sensor is working at D4.

You can further check the drive speed at TP2 (Scope or frequency counter), or look at the signal coming off the read head at TP2 (scope or null meter), if you are on an alignment track for disk alignment.

This unit has a lot of uses (for an unintelligent device) and enables easy benchtesting and circuit tracing will be much easier.

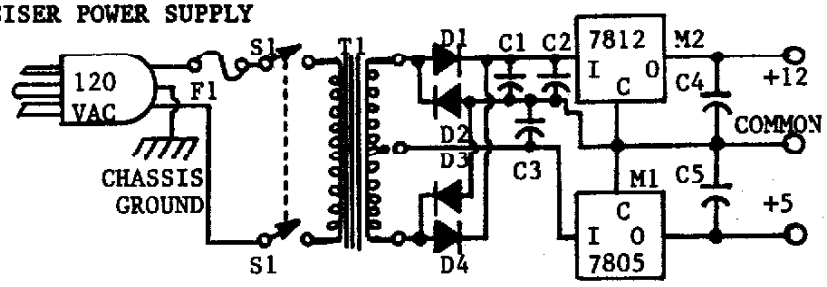
The power supply shown below must be built at your own risk. Dangerous high voltage exists, and only experienced electronics people should construct this part of the Disk Exerciser project. You could use a Triple Output Powersupply available from Radio Shack for sometime now, 277-1022 provided you were only testing 1/2 height disk drives, or you could also use an old TI console power supply in the same way, and hook up the appropriate pins to the three points indicated in the upper right hand corner of the schematic of the exerciser.

EXERCISER POWER SUPPLY

PARTS:

1 Fuse Holder w/1A fuse.. F1
1 Switch DPST 115 VAC.... S1
1 Transformer 18VAC C.T
  Radio Shack 273-1515... T1
4 3A diodes 1N5402
  R.S. 276-1143..D1,D2,D3,D4
3 Capacitors 2200MFD 35V.
  R.S. 272-1020.....C1,C2,C3
2 Capacitors 100MFD 35V.
  R.S. 272-1016.....C4,C5
1 +5 Volt Regulator
  R.S. 276-1771.....M1
1 +12 Volt Regulator
  R.S. 276-1770.....M2
1 AC Power cable

Observe polarity on any capacitor marked. "+" toward +5 and +12. It is also IMPERATIVE to attach the two regulators to large HEAT SINK.



The power supply above will also make a very good source of DC power for a stand-alone disk drive, as long as the unit does not draw over one amp. on the +12 volt line. This unit will get very hot due to the very high (18 VAC) on the secondary. The reg.s have to drop this to 12, and the +5 v. reg. must also work very hard because it is dropping 9 VAC to the needed +5. If a transformer that outputs about 16 VAC c.t., can be acquired, the unit will run cooler. After you have constructed this unit, and put it into the box with the EXERCISER, connect the three lines +12, COMM.(GROUND), and +5 to these pts. in the EXERCISER. We'll begin next month with a disk drive.

$$$WELCOME$$$WELCOME$$$WELCOME$$$$

The PUG would like to extend a warm welcome to our newest member....Andrew Wallace. We would also like to convey our continued welcome to Vincent Lezak who has recently renewed his membership.

THE KIDDIE CORNER
by Sue Harper

For kids of all ages - a series of articles on how to get started making your own programs.

Let's start with a program to d your math homework. So far, we know how to get the compu r to do a problem, now we will tell the computer to do l your problems!

Type the program just as you se it here:

```
NEW
10 CALL CLEAR
20 PRINT "HI. I'LL DO YOUR HOME WORK! WHEN YOU HEAR
   THE BEEP, TYPE ONE NUMBER. ON THE SECOND BEEP,
   TYPE THE SECOND NUMBER."
30 PRINT "READY? PRESS ENTER TO START";::::::
40 CALL KEY(0,K,S)
50 IF S=0 THEN 40
60 CALL CLEAR
70 INPUT A
80 INPUT B
90 PRINT A;"+";B;"=";A+B
100 PRINT "DO YOU HAVE ANOTHER QUESTION? TYPE YES IF
    YOU DO, TYPE NO IF YOU DO NOT. DON'T FORGET
    TO PRESS ENTER."
110 INPUT A$
120 IF A$="YES" THEN 30
130 STOP
```

Now, RUN your program. If you typed it carefully, it will ask you for two numbers, add them, and ask if you have any other questions to do. To make the program subtract, change line 90:

```
90 PRINT A;"-";B;"=";A-B
```

Can you guess how to change the line to make the program multiply? How about divide?

The only commands that are new here are INPUT and the IF/THEN/ELSE statement. INPUT tells the computer to let the user give an answer. For the numbers, we are letting the number equal A or B. In the INPUT statement at the end, the answer is equal to A$. This is because the answer is to be a word instead of a number. We could change that to this:

```
100  PRINT "DO YOU HAVE ANOTHER QUESTION? TYPE 1 FOR
     YES, TYPE 2 FOR NO."
110 INPUT C
120 IF C=1 THEN 30
```

Either one will work. The IF/THEN/ELSE statement tells the computer to figure out what the INPUT was, and do something with it. In this case, if you answer yes, I have another question, then the computer goes back to line 30 and asks for the numbers. If you answer anything else, the program will end.

One other new command in the program is the CALL KEY statement. It is just a fancy INPUT statement. For INPUT, the person must type an answer and press ENTER for CALL KEY, the user need only hit one key. The problem is, you might need an answer longer than one letter or number, so INPUT is also an important command.

So, that's something new for you! Hope it is fun for you to use. Next month we will play a parlor game with the computer, and write a program that will make silly sentences. If you want to, try to figure out how to do it yourself, and see if we agree! By the way, the answers are * to multiply, / to divide!

See you next month!!!!!

FROM THE LIBRARIAN

We are very fortunate to have some exciting new stuff this month for the library. I think we have virtually something for everyone here!

For our utilities fans, we have the new TELCO 2.2, and for the fancy people who know all those fancy languages, we have the updates of some disks in the C language. The files don't quite match those on the disks I have, so I will ask for a C specialist to help me put the right stuff in the right place. Trust me, I don't plan to erase anything I don't understand!

We also have a new program for Multiplan, that gives the printer codes for the NX1000. Programs and docs are on the disk, so anyone with a NX1000 or compatable printer can now use this printout program. (Any questions about the program, however, please take them to Audrey! Thanks!)

For our gaming fans we have in the library three new games disks - Perfect Push, starring a spaceman who has to build his spaceship while being pursued by a variety of aliens. The first level has one blue monster, the second has two pumpkin-looking things, the third has three skulls, the forth has four things that look like hedgehogs! (We've only gotten to the fouth level!) You also work against a clock!

The second disk has Nibble, a game like Pac Man, but you direct a snake to eat all the apples. As the snake moves round the board, he gets longer, and time grows short as he grows long. Joysticks are not very responsive here, and that adds to the challenge.

Last, we have a disk with Monopoly and a Lotto picker. We could have used that for the California lottery last month! It will choose a random number for you.

Work continues on the new improved library and the catalog. I hope to have great progress to show at November, but I think my system's demo at the meeting explained some of the possible delays! Oh, yes, one other personal note! I have called the BBS, but because of my school schedule, not to mention my wierd computer set up, I do not call the BBS very often. SO. . . If you have a message for me, PLEASE do not just leave it on the board and assume that I got it. A call or a letter to my house is much more reliable! Thanks!

See you at the meeting!!!!!!

TIPS FROM THE TIGERCUB

#46

TIGERCUB SOFTWARE
156 Collingwood Ave.
Columbus, OH 43213

Distributed by Tigercub Software to TI-99/4A Users Groups for promotional purposes and in exchange for their newsletters. May be reprinted by non-profit users groups, with credit to Tigercub Software.

Over 130 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&H. 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 deductable from your first order.

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NUTS & BOLTS NO. 2, another full disk of 100 utility subprograms in merge format, all new and fully compatible with the last, and with 10 pages of documentation and examples. Also $15 postpaid.

```
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
$ NUTS & BOLTS #3 is now     $
$ ready, another full disk   $
$ of 140 new merge-format    $
$ utility subprograms, all   $
$ compatible with the pre-   $
$ vious. With 11 pages of    $
$ documentation, $15 ppd.    $
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
```

TIPS FROM THE TIGERCUB, a full disk containing the complete contents of this newsletter Nos. 1 through 14, 50 original programs and files, reduced to $10 ppd.
TIPS FROM THE TIGERCUB VOL. 2, another diskfull, complete contents of Nos. 15 through 24, over 60 files and programs, also just $10
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TIGERCUB CARE DISKS #1, #2 & #3, three full disks of text files, mostly of lessons on programming in XBasic, $5 per disk postpaid.

This one is explained in lines 180-190. I think that it will run on any Gemini printer.

```
100 DIM B(25,12),B$(25),CH$(
12),L$(12)
110 GOTO 150
120 S,K,T$,C$,V,J,A,CH$(),X,
X$,B$(),B(X,J),T,M,D$,L$(),C
,C1$,C2$,L,M$
130 CALL CLEAR :: CALL COLOR
 :: CALL SCREEN :: CALL CHAR
 :: CALL KEY :: CALL NUMTH
140 !@P-
150 !SEGMENTED BAR GRAPH
     by Jim Peterson 10/87
160 CALL CLEAR :: FOR S=1 TO
 12 :: CALL COLOR(S,2,B):: N
EXT S :: CALL SCREEN(5):: DI
SPLAY AT(3,10):"TIGERCUB" ::
 DISPLAY AT(5,6):"SEGMENTED
BAR GRAPH"
170 CALL CHAR(95,"3C4299A1A1
99423C"):: DISPLAY AT(7,12):
"_ 1987" :: DISPLAY AT(9,2):
"For free distribution but n
o":"price or copying fee may
 be":"charged."
180 DISPLAY AT(14,2):" Will
 output to a Gemini":"printer
 a horizontal bar-":"graph o
f up to 25 bars, each":"segm
ented into up to 12"
190 DISPLAY AT(18,1):"values
, with a title for":"each an
d optionally with a":"table
 of identification of":"the s
egment symbols."
200 DISPLAY AT(24,8):"" :: D
ISPLAY AT(24,8):"PRESS ANY K
EY" :: CALL KEY(0,K,S):: IF
 S=0 THEN 200
210 ON WARNING NEXT
220 DISPLAY AT(12,1)ERASE AL
L:"GRAPH TITLE?" :: ACCEPT A
T(14,1):T$ :: T$=RPT$(" ",17
-LEN(T$)/2)&T$ :: C$=CHR$(27
)
230 DISPLAY AT(16,1):"HOW MA
NY SEGMENTS PER BAR?" :: ACC
EPT AT(16,27)VALIDATE(DIGIT)
SIZE(2):V :: IF V=0 OR V>12
THEN 230
240 !@P+
250 DATA 239,229,168,251,173
,175,184,234,169,250,160,207
260 !@P-
270 FOR J=1 TO V :: READ A :
: CH$(J)=CHR$(A):: NEXT J
280 DISPLAY AT(3,1)ERASE ALL
:"Type END when finished"
290 X=X+1 :: IF X>25 THEN 33
0
300 CALL NUMTH(X,X$):: DISPL
AY AT(12,1):"Title of "&X$&"
 bar?" :: ACCEPT AT(14,1):B$
(X):: IF B$(X)="END" OR B$(X
)="end" THEN 330
310 FOR J=1 TO V :: CALL NUM
TH(J,X$):: DISPLAY AT(16,1):
X$&" segment value?" :: ACCE
PT AT(18,1)VALIDATE(NUMERIC)
:B(X,J):: T=T+B(X,J):: NEXT
J
320 M=MAX(M,T):: T=0 :: GOTO
 290
330 X=X-1 :: DISPLAY AT(20,1
):"Print labels? Y/N" :: ACC
EPT AT(20,19)VALIDATE("YN")S
IZE(1):D$ :: IF D$="N" THEN
350
340 FOR J=1 TO V :: CALL NUM
TH(J,X$):: DISPLAY AT(22,1):
X$&" label?" :: ACCEPT AT(24
,1):L$(J):: NEXT J
350 C=120/M :: C1$=C$&"B"&CH
R$(1)&C$&"F"&C$&"E" :: C2$=C
$&"B"&CHR$(3)
360 OPEN #1:"PIO",VARIABLE 2
55 :: PRINT #1:C$&"@" :: PRI
NT #1:C$&"E"&C$&"G"&C$&"M"&C
HR$(6)
370 PRINT #1:CHR$(14)&T$&CHR
$(20):"";RPT$(CHR$(229),70):
;; :: PRINT #1:C$&"3"&CHR$(1
0)
380 FOR J=1 TO X :: PRINT #1
:B$(J)&C2$ :: FOR L=1 TO V :
: M$=M$&RPT$(CH$(L),INT(B(J,
L)*C+.5)):: NEXT L
390 PRINT #1:RPT$(CHR$(232),
LEN(M$)):: PRINT #1:M$ :: PR
INT #1:M$ :: PRINT #1:RPT$(C
HR$(231),LEN(M$))
400 M$="" :: PRINT #1:C1$;::
 NEXT J :: IF D$="N" THEN ST
OP
410 PRINT #1:"";""
420 FOR J=1 TO V :: PRINT #1
:C2$&RPT$(CHR$(232),10):: PR
INT #1:RPT$(CH$(J),10)&C1$&"
     "&L$(J):: PRINT #1:C2$&
RPT$(CH$(J),10):: PRINT #1:R
PT$(CHR$(231),10):: NEXT J
430 !@P+
440 SUB NUMTH(N,N$):: IF FLA
G=1 THEN 520 :: FLAG=1 :: RE
STORE 480
450 GOTO 480
```

```
460 J,ONE$(),TEEN$(),TEN$(),
N,N$
470 !@P-
480 DATA first,second,third,
fourth,fifth,sixth,seventh,e
ighth,ninth,tenth
490 DATA eleventh,twelfth,th
irteenth,fourteenth,fifteent
h,sixteenth,seventeenth,eigh
teenth,nineteenth
500 DATA twenty,THIRTY,FORTY
,FIFTY,SIXTY,SEVENTY,EIGHTY,
NINETY
510 FOR J=1 TO 10 :: READ ON
E$(J):: NEXT J :: FOR J=1 TO
 9 :: READ TEEN$(J):: NEXT J
 :: FOR J=2 TO 9 :: READ TEN
$(J):: NEXT J
520 IF N<11 THEN N$=ONE$(N):
: SUBEXIT
530 IF N<20 THEN N$=TEEN$(N-
10):: SUBEXIT
540 IF N/10=INT(N/10)THEN N$
=SEG$(TEN$(N/10),1,LEN(TEN$(
N/10))-1)&"ieth" :: SUBEXIT
550 N$=TEN$(INT(N/10))&"-"&O
NE$((N/10-INT(N/10))*10)
560 !@P+
570 SUBEND

  And a little something
educational -

100 DIM M$(100)
110 GOTO 150
120 S,J,M$(),A$,Z$,K,W$(),X,
Y,ADV$,A,G$
130 CALL CLEAR :: CALL COLOR
 :: CALL SCREEN :: CALL CHAR
 :: CALL KEY :: CALL ADVERB
:: CALL SOUND
140 !@P-
150 CALL CLEAR :: FOR S=0 TO
 12 :: CALL COLOR(S,2,S):: N
EXT S :: CALL SCREEN(5):: DI
SPLAY AT(3,2):"ADJECTIVE TO
ADVERB  V.1.3"
160 CALL CHAR(64,"3C4299A1A1
99423C"):: DISPLAY AT(5,6):"
@ Tigercub Software";;" For
 free distribution with  no
charge or copying fee."
170 FOR J=1 TO 100 :: READ M
$(J):: A$=A$&CHR$(J):: NEXT
J :: Z$=A$ :: CALL KEY(3,K,S
)
180 W$(1)=" If adjective end
s in Y,     change the Y to
ILY." :: W$(2)=" If adjectiv
e ends in C,    add ALLY."
190 W$(3)=" If adjective end
s in LL,    just add Y."
200 W$(4)=" If adjective end
s in LE,    preceded by a con
sonant,     drop the E and ad
d Y."
210 W$(5)=" If the word ends
 in E       preceded by a con
sonant,     preceded by a vow
el, just    add LY."
220 W$(6)=" This word is an
exception   to the rule - the
 adverb is WHOLLY."
230 W$(7)=" If the adjective
 does not   end in C,E,LL or
Y, always   just add LY."
240 W$(8)=" This is an excep
tion to the rule. The prefer
red adverb  form is DRYLY."
250 W$(9)=" If the adjective
 ends in E  preceded by a vo
wel, drop   the E and add LY
."
260 W$(10)=" If the adjectiv
e ends in E preceded by a co
nsonant     other than L, ad
d LY."
270 RANDOMIZE :: X=INT(RND*L
EN(Z$)+1):: Y=ASC(SEG$(Z$,X,
1)):: Z$=SEG$(Z$,1,X-1)&SEG$
(Z$,X+1,255):: IF LEN(Z$)=0
THEN Z$=A$
280 ACCEPT AT(24,1):M$(Y)
290 CALL ADVERB(M$(Y),ADV$,A
)
300 DISPLAY AT(12,1):" Type
the adverb form of -" :: DIS
PLAY AT(15,1):M$(Y):: DISPLA
Y AT(18,10):"" :: ACCEPT AT(
15,13)BEEP:G$
310 IF G$=ADV$ THEN DISPLAY
AT(18,10):"CORRECT!" :: GOTO
 240
320 CALL SOUND(100,110,5,-4,
5):: DISPLAY AT(20,1):W$(A):
"":"" :: GOTO 300
330 !@P+
340 DATA DUE,COOL,SOLE,STOIC
,FRANTIC,COMIC,ABLE,FULL,POO
R,HANDY,SORE,SOCIAL,PENAL,SL
OW,HIGH,LOW
350 !@P-
360 DATA FRISKY,PLAYFUL,HEAL
THY,ROUGH,BUSY,SILLY,SICK,SM
ART,SORE,FAIR,ANGRY,BARE,TIR
ED,WISHFUL,ACTUAL
370 DATA HASTY,LONE,HECTIC,O
FFICIAL,MAGIC,MAGICAL,MATHEM
ATIC,LOGIC,TRAGIC,PATHETIC,T
RAUMATIC
380 DATA DRAMATIC,AUTOMATIC,
AROMATIC,EQUAL,SERIAL,BASIC,
USUAL,FAVORABLE,UNSTABLE,LEG
IBLE
390 DATA HECTIC,LIVE,WARY,VI
SIBLE,TERRIBLE,HORRIBLE,VIVI
D,FANCY,EASY,VILE,WICKED,BLO
ODY,SHODDY
400 DATA NOBLE,HAPPY,LEGAL,M
ERRY,JOLLY,CRAZY,CASUAL,CARE
FUL,FOOLISH,FAMOUS,GAY,GUILT
Y
410 DATA HOPEFUL,HATEFUL,TIM
ID,BRAVE,BEAUTIFUL,DRY,NICE,
LARGE,PAINFUL,SINFUL,SORROWF
UL,SIMPLE,WILLFUL
420 DATA MENTAL,MORAL,PALE,W
HOLE,HUNGRY,FINAL,FORMAL,TRU
E,AMPLE,DOUBLE
430 !@P+
440 SUB ADVERB(M$,ADV$,A)::
L=LEN(M$):: E$=SEG$(M$,L,1):
: F$=SEG$(M$,L-1,2):: G$=SEG
$(M$,L-1,1):: P$=SEG$(M$,1,L
-1):: H$=SEG$(M$,L-2,1)
450 IF ASC(SEG$(M$,1,1))<97
THEN A$="ALLY" :: I$="ILY" :
: L$="LY" :: Y$="Y" :: V$="A
EIOU" ELSE A$="ally" :: I$="
ily" :: L$="ly" :: Y$="y" ::
460 IF M$="WHOLE" THEN ADV$=
"WHOLLY" :: A=6 :: SUBEXIT
470 IF M$="DRY" THEN ADV$="D
RYLY" :: A=8 :: SUBEXIT ELSE
 IF F$="LL" OR F$="ll" THEN
ADV$=M$&Y$ :: A=3 :: SUBEXIT
480 IF E$="C" OR E$="c" THEN
 ADV$=M$&A$ :: A=2 :: SUBEXI
T ELSE IF E$="Y" OR E$="y" T
HEN ADV$=P$&I$ :: A=1 :: SUB
EXIT
490 IF E$<>"E" AND E$<>"e" T
HEN 530
500 IF G$="L" OR G$="l" THEN
 IF POS(V$,H$,1)<>0 THEN ADV
$=M$&L$ :: A=5 :: SUBEXIT EL
SE ADV$=P$&Y$ :: A=4 :: SUBE
XIT
510 IF POS(V$,G$,1)<>0 THEN
ADV$=P$&L$ :: A=9 :: SUBEXIT
520 IF POS(V$,SEG$(M$,L-2,1)
,1)=0 THEN ADV$=M$&L$ :: A=1
0 :: SUBEXIT ELSE ADV$=M$&L$
 :: A=5 :: SUBEXIT
530 ADV$=M$&L$ :: A=7 :: SUB
END

100 !MOCKINGBIRD TINYGRAM by
    Jim Peterson. Tap  your
    tune on the 1 to 0 keys
      (tuned A through C)
110 !Then press any other
    key to hear it repeated
120 DATA 220,247,262,294,330
,349,392,440,494,523
130 FOR J=1 TO 10 :: READ N(
J):: NEXT J :: J=0 :: DIM T(
50,2)
140 CALL KEY(5,K,S):: IF S=0
 THEN 140
150 ON ERROR 190
160 CALL KEY(5,K,S):: IF K=-
1 THEN 160 :: K=K-(K=48)*10
:: T(J,1)=N(K-48):: CALL SOU
ND(-999,T(J,1),0)
170 IF K=K2 THEN T(J,2)=T(J,
2)+1 :: GOTO 160
180 K2=K :: J=J+1 :: GOTO 16
0
190 FOR X=0 TO J-1 :: CALL S
OUND((T(X,2)+1)*400,T(X,1),0
,T(X,1)*1.01,0):: NEXT X ::
J=0 :: GOTO 140

  A little subprogram to add
a bit of variety to your
"PRESS ANY KEY" routine.

1 CALL CLEAR :: CALL PRESSKE
Y(24)
30000 SUB PRESSKEY(R)
30001 C=C+1 :: IF C=16 THEN
30002 :: DISPLAY AT(R,1):""
:: DISPLAY AT(R,C):"PRESS AN
Y KEY" :: DISPLAY AT(R,C):"p
ress any key" :: CALL KEY(0,
K,S):: IF S=0 THEN 30001 ELS
E 30003
30002 C=C-1 :: IF C=0 THEN 3
0001 :: DISPLAY AT(R,1):"" :
: DISPLAY AT(R,C):"PRESS ANY
 KEY" :: DISPLAY AT(R,C):"pr
ess any key" :: CALL KEY(0,K
,S):: IF S=0 THEN 30002
30003 DISPLAY AT(R,1):"" ::
SUBEND

  And a new way to wipe the
screen -

1 CALL CORNERWIPE(30)
29000 SUB CORNERWIPE(CH):: F
OR T=1 TO 24 :: CALL HCHAR(T
,3,CH,T*4):: CALL HCHAR(25-T
,32-T,CH,T):: NEXT T :: CALL
 CLEAR :: SUBEND

      MEMORY FULL

      Jim Peterson
```

T.I. WRITER

Part 10

Stan Katzman

Well let's continue our discussion of dot commands in the Formatter. The next commands I want to discuss control the number of lines on a page (.PL __), if you want to have the document double spaced (.LS _) and if you want to skip some lines in your document (.SP _).

Let's start with (.PL __) the page length command. The default setting for the number of lines on a page in T.I. Writer is 66. You cannot have more but you can have less. To do this, at the start of your document type .PL 60<enter>. Now type your document. When your document is put through the Formatter there will be only 60 lines per page. If you want 55 just enter 55 in place of the 60 (or whatever you want to have.)

The default setting for line spacing in the Formatter is single spacing. If you want your document to be double spaced or triple spaced just type .LS 2<enter> at the head of your document or .LS 3<enter> for triple spacing.

If you want, say, five blank lines, for some reason, in your document, on a separate line unto itself type .SP 5<enter> and the formatter will skip five lines and then continue printing the rest of your document.

What I am going to discuss now is a handy feature but not dot commands. In the beginning of the Formatter there is a time when it says "What Pages (A)". Meaning what pages do you want printed from a multipage document. If you just press enter it will print all pages from 1 to the end. If you want selected pages printed out just enter them as will be described. Say we want to print page 6, pages 12 through 15 and 22 to the end, type the following in response to the "What Pages" question, 6,12-15,22-E and only those designated pages will be printed out.

As a summary I would like to show you what the formatting (dot) commands would look like for a document to have margins of L 17, R 77, double spaced, right adjusted and a page length of 58.

.LM 17;RM 77;FI;AD;LS 2;PL 58<enter>

Try these formatting commands and happy "processing"

MULTIPLAN

Part 12

By Audrey Bucher

This month we'll continue working with TABLES and the INDEX command. A table is a rectangular group of cells which you can address through Multiplan. You use a special syntax to indicate a rectangular area to MP, namely *upper-left-cell:lower-right-cell*. For example the boxed area below would be called R1C1:R4C3.

	1	2	3	4
1	AAAA	1	$1.00	
2	BBBB	2	$2.00	
3	CCCC	3	$3.00	
4				

5	AAAA	1	$1.00
6	BBBB	2	$2.00
7	CCCC	3	$3.00

COPY FROM cell:R1C1:R3C3 to:R5C2

Rows and columns on the worksheet are just rectangular areas which are one cell long or wide respectively. Even a single cell is just the smallest possible rectangular area.

It is possible to refer to rectangular areas in five of MP's commands:Blank, Copy, Format, Name and Print. Copy is the most interesting so let's explore it first. The Copy command has three sub commands:Right, Down and From. Copy lets you move an entire rectangular area to another part of the worksheet while retaining it in the original spot as well. In our example, the original worksheet contained only the rectangular area R1C1:R3C3. The balance of the example was the result of copying from R1C1:R3C3 to R5C2. Notice that you don't need to specify the boundaries of the destination area;MP assumes that you are referring to the upper left corner of a rectangle that is the same shape as the "from" area.

Copy Right is a special case of Copy From. You may use Copy Right to make more than one copy of a rectangular area, but the cells you copy from must all be in the same column and the destination area(s) must be in adjacent columns. Copy Down is similar except that portions of rows are copied to adjacent rows. A word of caution when you use the Copy commands. The information in the destination areas is wiped out when it is replaced, so you can lose whole areas of your worksheet by specifying a destination which contains information you meant to keep.

If there is a rectangular area that will be used frequently on your worksheet, you may want to Name it to make things easier. The Name command assigns the label of your choice to the area. You may then refer to it by it's label instead of the upper-left:lower-right notation.

The Print Options command allows you to designate any rectangular area for printing. This is a real time and paper saver when you are developing a worksheet.

The Format Cells command can be used to change the format in which the contents of a cell or area of cells are presented.

The Blank command is used to blank out areas of a worksheet.

MP makes it easy to use the rectangular area designations. It is not necessary to type them in; you can use the cell pointer to indicate the boundaries of the area you desire. When you have selected the command and arrived at the spot where the designation should be

placed, just move the cell pointer to the upper left cell of the area, type a :(colon), then move the cell pointer to the lower right boundary of the area. This technique helps prevent mistakes and is easier on non-typists.

A table is a very useful type of rectangular area. Last month we used a table and referenced it from other places on the worksheet. This month we will use the table in a different manner.

Suppose you run a small business repairing washing machines and would like to offer free estimates. Our next example shows a model for this. First you would set up a table of common jobs. You would also want to include your hourly rate and the prices for parts so that MP may calculate a realistic estimate. Each job will have a verbal description, a price for parts and an estimated number of hours it will take to complete the job. This description is there to save time. You will only need to type the one digit job number in lieu of the longer description. The parts prices can be changed easily when necessary. The labor is depicted in hours so that the labor portion of each job can be figured against your current hourly rate. We will need to supply the hourly rate elsewhere and have MP do the calculation. Since we will reference this table often, we will Name it TABLE. Use the Name command and specify TABLE to refer to R16C1:R18C4.

```
    1       2          3          4
 1      WASHER REPAIR  CURRENT RATE IS
 2      12 MY ST.      $35.00 PER HOUR
 3      MYCITY, USA
 4
 5      REPAIR ESTIMATE   11/1/88
 6
 7JOB#  DESCRIPTION       AMOUNT
 8      (Formula)         (Formula)
 9
10
11
12      TOTAL             (Formula)
13
14 TABLE
15    JOB# DESCRIPTION      PARTS       HOURS
16       1 REPLACE HOSE    $ 12.00        .75
17       2 GEN.OVERHAUL                  1.50
18       3 REPLACE PUMP    $100.00       2.00
```

As you can see from the example, the company's heading is typed in and the hourly rate is displayed. Space is left to fill in the current date when the estimate is used. You need only to type in the job number and MP will fill in the rest. MP will get the description from the table and the amount for each item will be calculated as the parts price plus the labor hours multiplied by the hourly rate.

In order to do this we will use the INDEX function. INDEX returns the value of a cell from a table. The general form of the function for this case is INDEX(TABLE,row,column).The job numbers 1 through 3 can be used as the row designators in the INDEX function. When you want the description, just specify column 2. In other words, the description for job #3 would be just INDEX(TABLE,3,2). The parts price is always in column 3 and the labor hours are always in column 4, so the only variable we'll have is the job number.

Now, let's enter the formulas for the first detail row of the estimate. The job number will be filled in when the worksheet is actually used; leave it blank for now. Under DESCRIPTION we want to use INDEX(TABLE,RC[-11],2). To enter this put the cell pointer at row 8,column 2 and type = to tell MP that a formula will follow. Don't be surprised at the #REF! error which results; that happens because we haven't filled in a job number as yet so MP is unable to look it up.

Next fill in the formula for AMOUNT. We need to use the labor rate here so let's Name the cell containing $35.00 so we can refer to it by name. Let's call it RATE. Now place the cell pointer in the first row under AMOUNT, type =, and then enter the formula: INDEX(TABLE,RC[-2],3)+INDEX(TABLE,RC[-2],4)*RATE. The RC[-2] terms refer to the job number again. What we're asking for is the parts amount plus the hours times the rate. Notice that we don't need parentheses around the hours times rate term because MP automatically does multiplication before it does addition. The #REF! message will appear here also.

You may copy the formula down for as many lines as needed for your estimate. Let's put the TOTAL line on row 12. Enter TOTAL under DESCRIPTION, move over under AMOUNT and enter the formula SUM(R[-4]C:R[-1]C, using the cell pointer to refer to the rectangular area to be summed into the total.

Now designate the area to be printed as the customer should not receive a copy of the jobs table or the job number. Using the PRINT OPTIONS command to designate that only the area R1C2:R12C4 should be printed.

Now save your worksheet. When an estimate is to be printed, load your worksheet, fill in the date and fill in the job number at R8C1. If your need more detail lines simply copy the formula down as many lines as you need and fill in the job numbers on the appropriate lines. MP will do the rest. Below is a copy of the estimate when a 1 and 3 are entered in R8C1 and R9C1 respectively.

```
WASHER REPAIR    CURRENT  RATE IS
12 MY ST.         $35.00  PER HOUR
MYTOWN,USA

REPAIR  ESTIMATE    11/1/88

DESCRIPTION       AMOUNT
REPLACE HOSE      $38.25
REPLACE PUMP     $170.00


TOTAL            $208.25
```

$IMPACT/99$
By Jack Hughrue

TI-BASE: PART ONE

EXHILARATION!

You know that dizzying, exhilarating feeling you get when you've trudged all morning up a mountain path and have come out of the brush at the crest. You can look back from that peak and see how far you've come and look ahead to see how far you've yet to go.

It's a wonderful, spirit-lifting kind of feeling as you stand there breathing in that rare air. You've come to a definite point in your life, but the journey's far from over.

Well, I felt a little like that today after spending just four hours with a program called TI-BASE. I feel I have scaled new heights with my TI, but I realize I have a long way yet to go.

TI-BASE opens up creative and critical USER possibilities in a way nothing else has ever done for the TI with the possible exception of FUNNELWEB and TI-ARTIST. I know GRAPHX is wonderful. It's the art program I teethed on. And BA WRITER is great. And don't forget _____. (Fill in the blank with your favorite.)

But TI-ARTIST (by Chris Faherty of Inscebot) has become the TI world's standard against which all art products for our machine are judged. Can the pictures be converted? Is the drawing/painting program compatible? And so on. Can new enhancements be made for it (such as DISPLAY MASTER, ARTIST EXTRAS, ARTIST COMPANIONS)? And, equally important, is it used productively by the VAST majority of users? No question, TI-ARTIST has, justifiably, become the most productive art tool for the 99.

FUNNELWEB (by Tony McGovern and his son Will) has had a parallel experience as a modified disk operating system for the 4A, an environment that is centered around the combined functions of word-processing, assembling, and disk managing. It has become the single most-used disk program for the TI. Again, justifiably.

Now comes TI-BASE.

It, too, will become - without question - THE database tool for normal users to astound themselves with and for geniuses to create unlimited enhancements and templates. TI-BASE is an open-ended data system that includes, in passing, text and disk management packaging for incredible convenience. Yet it also allows such freedom of personalization that it is mind-boggling. The only thing I can equate it to is DBIII+ for IBM. And that sells for about $800 and comes with piles of disks and a 500+ page manual. And, if you look in any bookstore's computer section, you will find loads of books on how to use DBIII+ (or any of the earlier ones in the series). Colleges and night schools offer courses on just the use of DBIII+.

And here's the rub. Inscebot (P.O. Box 291610, Port Orange, Fl 32027. provides THEIR masterpiece on two SSSD disks and one of those is a tutorial disk. Their manual is a mere 40 5x7 pages.

What this means is 1) that a genius created this extremely compact base and 2) that the manual is in no way complete for those who want to dive deeply into this remarkable piece of software. I can picture all kinds of companion disks being created for TI-BASE by users world-wide, starting with disks of templates. I can also picture all kinds of things being written for it, starting with tutorials.

Let me catch my breath here a minute. You're probably getting the impression I LIKE this program. LIKE is not a strong enough word. You'll see why in a moment.

But first let me explain that Chris Faherty's father, Dennis, is the brilliant creator of TI-BASE. Now we have another father-son 4A genius team, like the McGoverns. Dennis has been a data-processing professional for almost a quarter century. It's apparent on TI-BASE that he brought all his expertise and experience to this software.

To tell you the truth, when I first read the manual I panicked. I didn't (and still don't) understand such things as the following paragraph.

"The CASE directive allows selective processing of directives. CASE directives are included between DOCASE and ENDCASE directives. Each CASE is examined sequentially. The first case which resolves to 'true', will be executed. Execution will be continued until a BREAK directive is encountered. Execution will then be discontinued until the ENDCASE is encountered."

That's as bad as it gets.

I'm sure people who use databases with regularity at work will find that paragraph a piece of cake. I don't.

My database experience (except to watch others on the DB series on the IBM and, once in a while, to play with the base part of APPLEWORKS has been strictly TI: DB 300/500, PR BASE, CFS, and a few other disks and modules. All of which were good for some things but were not user-friendly and were very limiting. I didn't feel creative using them. None of them seemed to be able to do the kinds of things I had pictured in my mind. What TI-BASE does best is let you create EXACTLY what you want in an easy and direct way.

The best way to explain this, I think, would be to run through my very first application.

I have a collection (mostly paperbacks and flea-market specials) of books by P.G. Wodehouse, who is the funniest writer who ever lived.

He wrote 97 books. He also wrote 285 short stories, 33 musicals, 18 plays, over 200 songs, and an untold number of essays and reviews. He holds the Guinness Book of Records for having five of his musical comedies running simultaneously on Broadway. There have been dozens of books written about him, and there have been collections of earlier works into first-time anthologies. Plus, he wrote movies and had many that were based on his works. There were numerous television and radio series in this country and England (many introduced by Wodehouse), and there were records and tapes made of many of his works.

In short, he was a prolific writer. I had piles of

NOVEMBER 1988						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
(20)	21	22	23	24	25	26
27	28	29	30			

PUG MEETING

DECEMBER 1988						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
(18)	19	20	21	22	23	24
25	26	27	28	29	30	31

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[][][][][][][][][] SCHEDULE OF EVENTS [][][][][][][][][][]

3-4:30 Picasso Publisher Class with Gary.....Rm. 401
4:30-5 Hardware Class with John Wilforth.....Rm. 475
Installing xbasic inside console
4:30-5 Multiplan Class with Audrey.....Rm. 401
5:00-6 Printer's Apprentice Class with Frank Z..Rm. 401
6:00-? General Meeting

[][][][][][][][][][] SEE YOU THERE [][][][][][][][][][]

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