The last meeting was consumed with a demo of the Enhanced Display Package by Paragon Computing (yes.

I will say that the package has grown a little and still provides enhancements not available in any other display package on the market. Details will follow.

NEW

1. GET THOSE DONATIONS IN!

The donations to Paulo Pagneres) (BA-WRITER) and the McGovern's (FUNNEL WRITER) will be sent off after the January meeting. If you have intended to send something for these fantastic programs, this is the time. Make checks payable to the New Hampshire 99er's User Group. I will pay for the money order out of my pocket - your entire donation will be sent.

2) GENEVE IS COMING!

Yes, we will have one of those mysterious machines at the meeting courtesy of Peter Hoddie of the Boston Computer Society. See the accompanying article for details on what it can do. Also, Peter will bring some of his software and make it available (at a reduced rate). See any MICROpendium for ads describing his work.

3) PEB BOX TO BE AUCIONED?

Notice the question mark. We still have not reached $100 in ticket sales for this raffle. I can't believe that people aren't willing to part with $2 for a chance at a mint condition box . Even if you don't think you would use it, you must know someone who needs it. Besides, the money goes to a very good cause — the club. Three tickets for $5. Contact Richard Quimby for tickets if you won't be at the meeting.

This month is another Richard Bailey month. Richard has been very prolific over the last few weeks writing stuff for the newsletter. Enjoy the articles. We'll put out more programs in the next issue.

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NH99ER USER GROUP

WIND-CHILL CHART
FOR THE TI-99/4A

There are some of us who don't just sit in front of the computer 24 hours a day. We at least try to maintain some semblance of normality even if it is a front. As some of you know I spend a fair amount of time climbing mountains during the winter months and others probably run, ski, snowmobile, etc.. One thing all of us who spend time outdoors have in common, especially in winter, is a need to know: "How cold is it?" Not just the dry-bulb temperature but wind-chill temperature. Wind speed (or your speed relative to the air if you're moving) has a cooling effect that makes any temperature feel lower.

I found an article in the November, '83 issue of Microcomputing by Mark C. Worley that would print a wind-chill chart on an MX-80 printer. Seeing most of us don't have S-100 bus computer systems, I modified the program to run on the T.I..

Wind speeds are in 5 MPH increments from 5 to 50 MPH (there is no increase in wind-chill for winds >50 MPH) and the wind-chill temperatures are calculated for dry-bulb temperatures from +60 °F to -45 °F.

The printer codes are standard MX-80 codes which could be modified to work with other printers. The printer name is in line 270 and must match your printer.

```
100 !************************
110 !* MX-80 WIND-CHILL   *
120 !*A PROGRAM TO CONVERT*
130 !*DRY-BULB TEMPERATURE*
140 !*IN DEGREES 'F' AND*
150 !*WIND SPEED IN 'MPH'*
160 !*TO THE APPARENT WIND*
170 !*CHILL TEMPERATURE   *
180 !*FROM: Microcomputing*
190 !*     November, 1983*
200 !*BY:   Mark C. Worley*
210 !*ADAPTED FOR THE T.I.*
220 !*BY:Richard J. Bailey*
230 !*   68A Church Street*
240 !*   Gonic, N.H. 03867*
250 !************************
260 DISPLAY AT(8,7)ERASE ALL
:"MX-80 WIND CHILL":TAB(14):
"BY":TAB(8);"Mark C. Worley"
:"":TAB(8);"TI  VERSION BY":
TAB(7);"Richard J.Bailey"
270 OPEN #1:"PIO",VARIABLE 1
32 :: PRINT #1:CHR$(27);"@":
CHR$(14);CHR$(27);"G";TAB(16
);"WIND-CHILL CHART":"":""
280 PRINT #1:TAB(29);"DRY-BU
```

```
LB TEMPERATURE ";CHR$(27);"S
";CHR$(0);" 0";CHR$(27);"T";
"F";CHR$(15);CHR$(27);"S";CH
R$(1)
290 PRINT #1:TAB(13);:: FOR
T=60 TO -45 STEP -5 :: PRINT
 #1,USING "#####":T;:: NEXT
T :: PRINT #1:TAB(10);"MPH";
TAB(126);"MPH"
300 FOR V=5 TO 50 STEP 5 ::
PRINT #1:TAB(10);:: PRINT #1
,USING "##":V;:: PRINT #1:"
";
310 for t=60 to -45 step -5
:: V1=(V*1609.35)/3600 :: TC
=33-((T-32)*(5/9))
320 H=(10.45+(10*SQR(V1))-V1
)*TC :: X1=90-((H-17.1375)/1
2.3):: X1=INT(((X1*10)+5)/10
):: PRINT #1,USING "#####":X
1;:: NEXT T
330 PRINT #1:"    ";:: PRINT
#1,USING "##":V :: NEXT V ::
 CALL CLEAR :: PRINT #1:CHR$
(27);"@" :: CLOSE #1
```

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GRAPHX UPGRADE
FROM TEX-COMP

Well, I ordered the GRAPHX upgrade from Tex-Comp and received it in about two weeks. What you have to do is to send in your original GRAPHX disk and $5.00 to get the upgrade. What do you get for your money? You get a new memory-image version of GRAPHX that will load faster and has 'flip' and 'rotate' functions added. They punch the write-protect tab on your old disk, copy the new version, and put another write-protect tab over the original.

This new version will load from E/A, extended basic, or Mini-Memory and one sheet of instructions is included. The added features are simple enough to understand so this is adequate to get you up and running. The new version has an option of bypassing the graphics screen you're used to seeing on start-up. If you choose this option GRAPHX will load from E/A, extended basic, or Mini-Memory in about 33 seconds. Loading takes several seconds longer if you don't bypass the title screen. The old extended basic version required 270 seconds to load.

Flip and rotate can be accessed whenever you have an object, clipboard part, etc., on the screen that you can move with the joystick. If you have selected a section of your drawing to move or copy, or have picked up a clipboard piece, you can press "F" to activate the 'flip' and 'rotate' mode. While you are in this mode there is an instruction line on the screen, either top or bottom depending on where the cursor is, to tell you that you are in this mode and telling you what to do. Pressing the joystick to either side will cause the object to flip back and forth. Moving the joystick up or down will cause the object to rotate clockwise 90 degrees every time you move the joystick. This gives you a total of eight possible orientations for your object. Pressing the fire button allows you to exit the flip and rotate mode.

There are two limitations that you should keep in mind. One is that colors don't follow the flipping and rotating and this is covered in the instructions. You could recolor after flipping, if desired. If the object you flip or rotate was a clipboard part, the original will still have its original colors on your clipboard. Unless you replace it with your flipped part, you lose nothing.

The second limitation that could cause more serious problems is this. If you had the Mini-Memory version and have created large clipboards, these cannot be loaded by the old E/A or extended basic versions, or the new version whether it's loaded with Mini-Memory or any other way. The old Mini-Memory version used the 8K in the module for added space for the clipboards and the new version that works with all modules doesn't recognize this added memory space. If you try to load one of your large clipboards with the new version, you get a load error message. The only way around this problem is to divide all large clipboards before you send in your old Mini-Memory version of GRAPHX in or you'll be stuck with clipboards you can't load or use.

I find this added feature is well worth the $5.00 for the update because it allows you to have smaller clipboards for creating schematics and similar type graphic parts. Instead of having to store four diode symbols you just rotate or flip the one to get the four directions you need. This makes my using GRAPHX much easier and quicker.

DISKNAME	LANGUAGE	COMMENTS	COMMENTS	COMMENTS
ADRSMASTER *	XBASIC	JHB database program. LINKMASTER&DVECTOR needed		**$12**
ADVENTURE1	BASIC	text and graphic adventure games		
ASGARD/PD1	XBASIC	Public domain music software from Asgard.		
ASGARD/PD2	XBASIC	Public domain music software from Asgard.		
ASGARD/PD3	XBASIC	Public domain music software from Asgard.		
ASGARD/PD4	XBASIC	Public domain music software from Asgard.		
ASGARD/PD5	XBASIC	Public domain music software from Asgard.		
ASSY_GAMES	XBASIC	arcade quality games. 32K/speech synth. required		
B_TRAVER#1	XBASIC	good demos and utilities on this FAIRWARE disk.		
BA-WRITER *	XBASIC	Good FAIRWARE TI-WRITER package.	not for>	**$5** FLIPPY
BA-WRI-DOC *	TI-WTR	DIS/VAR80 files for the above	ramdisk/	
BASICS1-9	BASIC	T.I.'s basic lessons on disk.		
BBS *	XBASIC	John Clulow's bulletin board software FREEWARE disk.		**$5**
BEST/SONGS	XBASIC	Bill Knecht's tunes with graphics.		
BESTSONGS2	XBASIC	Bill Knecht's tunes with graphics.		
BEST/HYMNS	XBASIC	Bill Knecht's hymns with graphics.		
BLUEY	XBASIC	create and annimate your sprites with this utility.		
C99REL3 *	E/A	Latest update to:	\	
C99REL3+ *	E/A	Curt Pulley's FAIRWARE "C" language.	\	
C99UPDATE *	E/A	Modifications to the C99REL1 disk.	> **$6.50**	
C-TUTORIAL *	E/A	Demo programs and info for "C".	/	
CALENDAR	XBASIC	FAIRWARE disk of calender programs with documentation.		
CALENDAR2	XBASIC	makes a calendar with notation.		
CARTBUSTER	E/A-8K	save rom/prom cartridges to disk. SUPERCARTRIDGE required		
CASHFLOW	XBASIC	financial programs.		
CONGOBONGO	E/A	arcade quality game.		
COPY/CATXB	XBASIC	John Clulow's disk copier program.		
CUBIT	XBASIC	arcade quality game.		
DASSM*V1/3	E/A	disassemble your assembly programs.		
DAYTONA99	XBASIC	collection of demos/utilities from Daytona User Group.		
DAVISDISK	XBASIC	programs from Davis' book.		
DEBUGGER	E/A	debug your assembly language programs.		
DIAGNOSTIC	XBASIC	T.I.'s test disk for the 99/4A.		
DISKE	E/A	Sector access program. inspect and/or modify sectors.		
DM10003/5	XBASIC+	DM II replacement. Everyone should have this one!		
-DIRECTOR-	XBASIC	Gives good, fast, sorted directory for your library.		
DISKHACKER	XBASIC+	FAIRWARE Will McGovern program, need I say more?		
DSKU/V3-1	XBASIC+	FANTASTIC FAIRWARE sector editor,etc. MUST HAVE!		
DVECTOR	XBASIC	JHB database program. ADRSMASTER and LINKMASTER needed.		
DVUG/2D5	XBASIC	Shuttle-graphics and music from Deleware UG.		
EE-LIBRARY *	BASIC	T.I.'s idea of electrical engineering programs.		**$5**
FASTEX_80	XBASIC	Use the Fastex printer with the TI. Printer info program		
FTERM/DIAL	XBASIC+	Terminal emulator/Hayes autodialer program:TE II,XMODEM.		
FINANCE	XBASIC	Financial programs.		
FNLWR3/3-D	XBASIC+	\ $5.00-flippy The BEST replacement for TI-WRITER!		
FNLWR3/3-D	XBASIC+	>Complete loader system for XBASIC,E/A programs.		
GAMES_01	XBASIC	4 games. CHINACHESS is interesting.		
GEMINI	XBASIC	A disk full of 10-X demos.		
GLPDEMO	XBASIC	Printer demos for the Centronics GLP printer.		
GRADEBOOK	XBASIC	Gradebook and flashspelling programs w/documentation.		
GRAPH-PACK *	BASIC	T.I.'s idea of graphing programs.	**$6**	

```
GRAPHX          GRAPHX    6 pictures to be used with the GRAPHX package.
HBMPRINT        HBM       Dump HBM files to printers.
INCOME_TAX      MP        1984 income tax template for multiplan.
ISAM            XBASIC    ISAM files as described in MICROpendium 12/84 page 35.
ISS             XBASIC    Arcade games.
ISS/MUSIC       XBASIC    Music programs.
JET-DSK01A   *  XBASIC    Good FAIRWARE disk from John Taylor.
JET-DSK01B   *  BASIC     15 of the above.                              .5 FLIPPY
JET-DSK02A   *  XBASIC    John Taylor FAIRWARE sprite building program.> $5 FLIPPY
JET-DSK02B   *  XBASIC    127 sprites for the above FREEWARE disk.    /
KNIGHTDISK      XBASIC    FAIRWARE disk of utilities from Knight (TK-WRITER).
LINKMASTER      XBASIC    JHB database program. DVECTOR and ADRSMASTER needed.
LOGO_DISK       LOGOII    Good demo of LOGOs power.
MASSCOPY        XBASIC    Latest version of this FAIRWARE disk copier. V3.25
MASTERDISK      XBASIC    Directory program.
MEGABUCKS       XBASIC    Megabucks number selection program.
MENTOR          XBASIC    Bargraph,monopoly,draw-poker, other goodies.
MTXT/DISK       MINIMEM   Minimemory utilities for 40 column.
MUSIC           XBASIC    Moore music programs for the T.I.
MUSIC2          XBASIC    Moore music programs for the T.I.
MUSICOMPLR      E/A       BASIC loader allows music playing as other program runs.
MUSIC_MAKR      MUSIC     Music for the MUSICMAKER cartridge.
NEATLIST        XBASIC    FAIRWARE programming aid disk from Danny Michael.
NH99ERS#1       XBASIC    Games,music,word processor,speech, and graphics.
NH99ERS#2       XBASIC    Games for the T.I.
NH99ERS#3       XBASIC    Graphics, games, and utilities.
NH99UG          XBASIC    Good selection of programs for all.
99WRITERII      XBASIC    Another TI-WRITER.
ON_DISKJ/A      -------   Programs from HCM in various languages.
ON_DISK4_1      -------   Programs from HCM in several languages.
ON_DISK4_4      -------   Programs from HCM in several languages.
ON_DISK4_5      -------   Programs from HCM in several languages.
ON_DISK5_1      -------   Programs from HCM in several languages.
ON_DISK5_2      -------   Programs from HCM in several languages.
ON_DISK5_3      -------   Programs from HCM in several languages.
ON_DISK5_4      -------   Programs from HCM in several languages.
ON_DISK5_6      -------   Programs from HCM in several languages.
OSCAR1          BASIC     Programs from the OSCAR reader.
OSCAR2          BASIC     Programs from the OSCAR reader.
PILOT        *  E/A       The PILOT language.                           \FLIPPY
PILOT_DOC    *  XBASIC    PILOT documentation w/print function. (1.5hrs !)  > $5
POTPOURRI       XBASIC    Games and utilities. Includes diskjacket/disk labeler.
PRBASE       *  XBASIC    Database.                    \
PRBASE/DOC   *  XBASIC    Instructions for above.   > $5 FLIPPY
PROGAID123      BASIC     T.I.'s programming aids in both basic and xbasic.
RAM/SOFT        XBASIC    Craps game.
RODSK200        XBASIC    Gamma match antenna design for hams.
SAMUSIC/1       XBASIC    Moore songs.
SAME/DIFF       XBASIC    Kids matching games. Speech required.
SAMSGAMES1   *  XBASIC    Programs from the SAMS book. \
SAMSGAMES2   *  XBASIC    Continuation of above.        > $5 FLIPPY
SCREENDUMP      XBASIC    Or basic. A must FAIRWARE disk from Danny Michael.
SIDEPRINT       XBASIC    Print sideways with multiplan on Gemini printers.
SILVERWOLF      E/A       Assembly language utilities.
>>SPACE!<<      XBASIC    Space games with graphics. not as flashy as some.
SPCHTRADE       XBASIC    See and hear Lincoln speak! Speech synthesizer required.
STAR            XBASIC    FAIRWARE display enhancement package. Good.
SUPERBUGII      E/A       Debugger. Including one for the E/A-8K SUPERCARTRIDGE.
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TIPS FROM THE TIGERCUB

#41

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TIGERCUB SOFTWARE
156 Collingwood Ave.
Columbus, OH 43213

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This will be the last issue of the Tips from the Tigercub.

I started this newsletter over 3 years ago, as a means of promoting my software business. It has never been a success for that purpose, but I have kept it going because of the many interesting newsletters that I have received in exchange, and the many friends that I have made around the world.

I know, from the editors' comments in many of your newsletters, that many of you are finding it difficult to finance a newsletter for your shrinking membership, and even more difficult to find the time, and the material to print. For a one-man user's group pretending to be a business which is getting very little business, it has become impossible. User group members have never been good customers for anyone's software, for reasons which you all know, and those who are remaining active in the TI world are wanting more sophisticated software than I have to offer.

Some of you have offered to subscribe to my Tips, but I just don't have the time to get involved in anything like that. I have had some other projects on the back burner for too long, and it's time I got to work on them - they can hardly turn out to be less profitable than trying to sell software!

I am NOT going out of business, and I am NOT releasing my programs to the public domain. I will continue to sell them, and will continue some classified advertising.

My heartfelt thanks to the many user group editors and officers who have tried in many ways to encourage and help me. Many thanks to those who have purchased my programs.

I will greatly miss your

newsletters. I do hope to keep in contact with some of you. Perhaps now I can find time to browse in the TI sections of CompuServe or GENIE, and perhaps I will meet you there.

The answer to the challenge in the last Tips? For a clue, try -
DISPLAY AT(24,1):0 in Basic.
Still don't get it? In Basic, DISPLAY is the same as PRINT, but AT is not recognized, so the computer thinks you are telling it to print the variable AT(1,1) - which, being undefined, is 0 - and advance to the next line (the :) and print 0.

I have always wanted a pocket calculator with several memories and a window to display the contents of each one. So, since there is plenty of room for windows on a TV screen, I wrote one.
It does not require any use of the Enter key, but each CALL KEY input must be validated and processed, so don't type too fast. It will accept such inputs as M1=7= or M1=7+1= or M2=1-M1= to put a value in a memory, or 6+7= or 6+M2= to calculate and display, or 6+7M1 or M1-.M2M3 to calculate and put into memory, and will even to multiple calculations such as 1+2-3/4*5%6, subtotaling after the first two.

100 CALL CLEAR :: CALL SCREEN(5):: DEF S$(X)=SEG$(A$,X,1)&" " = " :: CALL PEEK(8198,A)
:: IF A<>170 THEN CALL INIT
110 CALL LOAD(-31806,16):: ON WARNING NEXT :: GOTO 140
120 SET,M$(),K,S,A$,S$(),R,C,N,N1,N2,N1F,N2F,M1F,M,MF,IF,FF,VF,EF,FL,N$,F2,T,M2,ME$(),ST,NX,ZF
130 CALL COLOR :: CALL CHAR :: CALL KEY :: CALL SOUND :: P-
140 FOR SET=0 TO 4 :: CAL

```
OLOR(SET,16,1):: NEXT SET ::
 FOR SET=5 TO 8 :: CALL COLO
R(SET,5,16):: NEXT SET :: CA
LL CHAR(64,"#")
150 FOR SET=9 TO 12 :: CALL
COLOR(SET,16,1):: NEXT SET
160 DISPLAY AT(1,10):"TIGERC
UB":"   MULTIMEMORY@CALCULAT
OR":: "MEMORY #1":"MEMORY
#2":"MEMORY #3":"MEMORY
#4":"MEMORY #5"
170 M$(1)="0123456789.+-*/%=
CXM" :: M$(2)="0123456789.AS
MDPECXM" :: DISPLAY AT(20,1)
:"use ?":"(1) symbols":"(2)
alpha characters"
180 CALL KEY(0,K,S):: IF S=0
 OR K<49 OR K>50 THEN 180 ::
 A$=M$(K-48)
190 DISPLAY AT(20,1):S$(12);
"add";TAB(16);S$(16);"percen
t" :: DISPLAY AT(21,1):S$(13
);"subtract";TAB(16);S$(17);
"equals"
200 DISPLAY AT(22,1):S$(14);
"multiply";TAB(16);S$(18);"c
ancel" :: DISPLAY AT(23,1):S
$(15);"divide by";TAB(16);S$
(19);"clear all"
210 DISPLAY AT(24,1):"M1 to
M5 = memories #1 to #5"
220 R=15 :: C=1 :: N,N1,N2,N
1F,N2F,M1F,M,MF,DF,FF,VF,EF,
FL,ZF=0 :: N$="" :: DISPLAY
AT(18,1):""
230 CALL KEY(3,K,S):: IF S<1
 THEN 230 :: CALL SOUND(50,5
00,5):: DISPLAY AT(R,C):CHR$
(K):: C=C+1
240 ON POS(A$,CHR$(K),1)+1 G
OTO 260,270,270,270,270,270,
270,270,270,270,270,280,290,
250,290,290,290,340,410,420,
430
250 IF VF=1 OR MF=1 THEN 290
 :: ZF=1 :: N$="-" :: GOTO 2
30
260 DISPLAY AT(R,C-1):"?" ::
C=C-1 :: GOTO 230
270 IF MF=1 THEN 260 :: FL=0
 :: VF=1 :: IF DF=0 AND ZF=0
THEN N=N*10+K-48 :: GOTO 23
0 ELSE N$=N$&CHR$(K):: GOTO
230
280 IF DF=1 THEN 260 :: DF=1
 :: MF,FL=0 :: IF ZF=1 THEN
N$=N$&"." :: GOTO 230 ELSE N
$=STR$(N)&"." :: GOTO 230
290 IF C=2 OR FL=1 THEN 260
:: FL=1 :: IF FF=0 THEN 320
```

```
300 F2=POS(A$,CHR$(K),1)-11
:: IF VF=1 THEN GOSUB 480
310 GOSUB 520 :: N1=T :: DIS
PLAY AT(18,1):"SUBTOTAL":T :
: N2F,N2=0 :: FF=F2 :: GOTO
230
320 IF VF=0 THEN 330 :: VF,M
F=0 :: GOSUB 480
330 MF=0 :: FF=POS(A$,CHR$(K
),1)-11 :: GOTO 230
340 IF C=2 OR(FF=0 AND M1F=0
)OR(C=4 AND M1F=0)OR FL=1 TH
EN 260
350 IF C=4 THEN EF=1 :: M2=M
 :: N1F,MF=0 :: GOTO 230
360 IF VF=1 THEN GOSUB 480
370 IF EF=0 THEN 400
380 IF N2F=0 THEN MEM(M2)=N1
 :: DISPLAY AT(M2*2+2,11):N1
 :: GOTO 220
390 GOSUB 520 :: MEM(M2)=T ::
: DISPLAY AT(M2*2+2,11):T ::
 GOTO 220
400 GOSUB 520 :: DISPLAY AT(
15,C):T :: GOTO 220
410 DISPLAY AT(R,1):"":"":""
:"" :: GOTO 220
420 MEM(1),MEM(2),MEM(3),MEM
(4),MEM(5)=0 :: FOR R=4 TO 1
2 STEP 2 :: DISPLAY AT(R,10)
:"" :: NEXT R :: GOTO 410
430 IF EF=1 AND MF=1 THEN 26
0
440 CALL KEY(3,K,ST):: IF ST
<1 OR K<49 OR K>53 THEN 430
ELSE CALL SOUND(50,500,5)::
M=K-48 :: DISPLAY AT(R,C):CH
R$(K):: C=C+1 :: MF=1 :: FL
=0 :: IF VF=1 THEN GOSUB 480
450 IF N1F=0 THEN M1F,N1F=1
:: N1=MEM(M):: IF ZF=1 OR DF
=1 THEN N1=VAL(N$&STR$(N1)):
: DF,ZF=0 :: GOTO 230 ELSE 2
30
460 IF N2F=0 THEN N2F=1 :: N
2=MEM(M):: IF ZF=1 OR DF=1 T
HEN N2=VAL(N$&STR$(N2)):: DF
,ZF=0 :: GOTO 230 ELSE 230
470 GOSUB 520 :: MEM(M)=T ::
 DISPLAY AT(M*2+2,11):T :: G
OTO 220
480 IF DF=0 AND ZF=0 THEN NX
=N ELSE NX=VAL(N$):: DF,ZF=0
490 IF N1F=0 THEN N1=NX :: N
1F=1 :: GOTO 510
500 N2=NX :: N2F=1
510 VF,N=0 :: N$="" :: RETUR
N
520 IF FF=1 THEN T=N1+N2 ELS
E IF FF=2 THEN T=N1-N2 ELSE
```

```
IF FF=3 THEN T=N1*N2 ELSE IF
 FF=4 THEN T=N1/N2 ELSE T=N1
*N2/100
530 RETURN
```

I have always been annoyed
by the difficulty of hyphen-
ating with TI-Writer, when I
want to avoid the gaping
holes that wraparound and
Fill and Adjust can cause.
Manually filling and adjust-
ing with carets is slow, and
leaving a space after the
hyphen is unreliable, so I
wrote this program.

```
100 DISPLAY AT(2,10)ERASE AL
L:"TIGERCUB:"  HYPHENATED F
ILL AND ADJUST"
110 DISPLAY AT(6,1):" Prepar
e text with TI-Writer":"Edit
or. Leave left TAB at 0,":"s
et right TAB at the actual"
:"value of the line length d
e-"
120 DISPLAY AT(10,1):"sired
(i.e., for a 28-char":"lin
e, set it at 28)."
130 DISPLAY AT(12,1):" Inden
t as desired. Center":"hea
dings as desired but be":"
sure to follow them with a
":"line feed (Enter). Hyphen
ate"
140 DISPLAY AT(16,1):"as de
sired and follow the":"hyp
hen immediately with a":"
line feed (Enter)."
150 ON ERROR 160 :: GOTO 170
160 ON ERROR 160 :: RETURN 1
70
170 DISPLAY AT(20,1):"INPUT
FILE? DSK" :: ACCEPT AT(20,1
6)BEEP:F$ :: OPEN #1:"DSK"&F
$,INPUT
180 DISPLAY AT(22,1):"OUTPUT
FILE? DSK" :: ACCEPT AT(22,
17)BEEP:NF$ :: OPEN #2:"DSK"
&NF$,OUTPUT
190 DISPLAY AT(24,1):"LINE L
ENGTH?" :: ACCEPT AT(24,14)V
ALIDATE(DIGIT):L
200 LF$=CHR$(13):: H$="-"&CH
R$(13)
210 ON ERROR 210 :: GOTO 220
220 ON ERROR 210 :: RETURN 3
10
230 LINPUT #1:M$ :: IF M$="
" OR M$=LF$ OR M$="" OR ASC(
```

```
M$)>127 OR(LEN(M$)=L AND POS
(M$,LF$,1)=0)OR POS(M$," ",1
)=0 THEN 310
240 IF POS(M$,LF$,1)<>0 AND
POS(M$,H$,1)=0 THEN 310
250 IF POS(M$,H$,1)<>0 THEN
M$=SEG$(M$,1,LEN(M$)-1)
260 IF LEN(M$)=L THEN 310
270 P=1
280 X=POS(M$," ",P):: IF X=P
 THEN P=P+1 :: GOTO 280 ELSE
Y,P=X :: IF POS(M$," ",P)=0
OR P=L THEN 310
290 M$=SEG$(M$,1,X)&" "&SEG$
(M$,X+1,255):: IF LEN(M$)>=L
THEN 310 ELSE P=X+2
300 X=POS(M$," ",P):: IF X=0
 THEN P=Y :: GOTO 300 ELSE G
OTO 290
310 PRINT #2:M$ :: IF EOF(1)
<>1 THEN 230 ELSE CLOSE #1 :
: CLOSE #2
```

Here is one for the pre-
schoolers -

```
100 CALL CLEAR :: CALL SCREE
N(14):: CALL COLOR(1,11,11,1
2,5,5):: DISPLAY AT(3,10):"S
EE-N-SAY": : :"PRESS ANY KEY
" !by Jim Peterson based on
a routine by Michael Lyons
110 DIM E$(16),PAT$(16):: CA
LL CHAR(123,RPT$("F",16))
120 DATA "      "," (",": (
"," ((","  ( ","  ( ("," ((
"," (((","  ( "," ( (","  ((
"," ((((","   (   ","  (    (
"," ((( (","  (( (  "," ((((
"," (((("
130 FOR J=0 TO 15 :: READ PA
T$(J):: NEXT J
140 CALL KEY(0,K,S):: IF S=0
 THEN 140
150 CALL CHARPAT(K,CP$):: FO
R X=1 TO 16 :: Y=ASC(SEG$(CP
$,X,1)):: E$(X)=PAT$(Y+(Y>57
)*7-48):: NEXT X :: IF K>96
AND K<123 THEN K=K-32
160 CALL CLEAR :: CALL SAY(C
HR$(K)):: FOR X=2 TO 16 STEP
 2 :: DISPLAY AT(8+(X/2),12)
:E$(X-1);E$(X):: NEXT X
170 CALL SAY(CHR$(K)):: GOTO
 140
```

And so, one more time

MEMORY FULL

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USING FUNNELWRITER WITH
THE HORIZON RAMDISK

The Funnelwriter optional loader (LOADA) on the latest version of FNLWR3/3-D in our library is ideally suited for use as a loader on the Horizons Ramdisk. There are a few minor changes that must be made to allow the two to work as a system. What I am going to describe are the changes I have made and this may give you ideas as to what you could do.

First copy the following files from the FNLWR3/3-D disk to a freshly initialized disk in this exact order. ASSM1, ASSM2, CHARA1, CHARA2, EAU, EDITB1, EDITB2, FORMB1, FORMB2, QD, UL, LOADA, ULINSTL. Rename LOADA to LOAD using DM1000 or some other disk manager. Now using a sector editor such as DISK UTILITIES by Birdwell (the DSKU/V3-1 disk in our library and I don't see how anyone could get by without it)) edit the 24th sector of the LOAD program. This should be sector >00DB (219 decimal) if you copied the files in the correct order. The first line of this sector reads: "ESD   UTILITY DI". On the second line up from the bottom change MGR3 to MGR1 and rewrite the modified sector to disk. You alternately could use the "find string" function, search the LOAD file for MGR3, and make the same change.

The reason for this change is that the version of DM1000 supplied with the operating system of the Horizons Ramdisk (I used VER_04) is modified to allow the CALL DM to work and the version supplied with the Funnelwriter disk does not support this CALL subroutine. Now copy MGR1 and MGR2 from the VER_04 Horizon disk. Your modified disk should now have 15 files and 291 sectors.

Enter extended basic without a disk in drive #1. Insert the disk you're creating and enter "OLD DSK1.LOAD". The LOAD program is a combination of extended basic and machine language and must not be resequenced or it will not work. If you are running the LOAD program and it breaks or you break it for some reason do not make a change and resave the program-it probably will not work. Enter "OLD DSK1.LOAD", make your changes, and resave.

Add line 101 which is: 101 !CALL CLEAR :: CALL INIT :: DELETE "XBCALL" :: CALL LINK("DN",1). The "!" will be taken out after the LOAD program is debugged but has to be in for now. On line 110, after GOTO 120, insert: :: FOR :: NEXT :: DISPLAY AT . If these are not added the pre-scan will give an error when you try to run the program.

Lines 180-330 are for the displayed menu names. Add whatever program names you wish to add on these lines. On line 340 after "FNLWEB",K, insert a number 1 inside the "" marks as described in the Funnelwriter load information documentation (boot disk tracking). Now you must modify lines 360-510 to load the programs called for in lines 180-330 as described in the load information documentation (user's list selection). You will have to read the Funnelwriter documentation to understand how to make these entries for your programs because there are some program specific variables involved. What I show here works for my configuration. The programs I used required the following:

```
180 OP$(2)="3 DM1000-3/3"
190 OP$(3)="4 UTILITIES "
200 OP$(4)="5 FAST-TERM "
210 OP$(5)="6 GRAPH-PACK"
220 OP$(6)="7 ..        "
230 OP$(7)="8 ..        "
240 OP$(8)="9 ..        "
250 OP$(9)="A X-BASIC #1"
260 OP$(10)="B X-BASIC #3"
270 OP$(11)="C DSK1.LOAD "
280 OP$(12)="D CALENDAR  "
290 OP$(13)="E DISKLABEL "
300 OP$(14)="F LABELMAKER"
310 OP$(15)="G PRINTER   "
320 OP$(16)="H ..        "
330 OP$(17)="I CASSETTE "

360 A$="DSK1.MGR1" :: K=3 :: GOTO 520 ! OPTION #3
370 A$="DSK1.DSKU1" :: K=3 :: GOTO 520 ! OPTION #4
380 A$="DSK1.FTERM1" :: K=3 :: GOTO 520
    ! OPTION #5
390 A$="DSK1.GRAPH_PAX" :: K=3 :: GOTO 520
    ! OPTION #6
400 RUN "DSK1.LOAD" ! OPTION #7
410 RUN "DSK1.LOAD" ! OPTION #8
420 RUN "DSK1.LOAD" ! OPTION #9
430 DISPLAY AT(1,1)BEEP ERASE ALL:"" :: END
    ! OPTION #A
440 GOSUB 511 :: FOR K=1 TO 300 :: NEXT K ::
    DISPLAY AT(1,1)BEEP ERASE ALL:"" :: END
    ! OPTION #B
450 GOSUB 511 :: RUN "DSK1.LOAD" ! OPTION #C
460 RUN "DSK1.CALENDAR" ! OPTION #D
470 GOSUB 511 :: RUN "DSK1.DISKLABEL"
    ! OPTION #E
480 RUN "DSK1.LABELMAKER" ! OPTION #F
490 RUN "DSK1.PRINTER" ! OPTION #G
500 RUN "DSK1.LOAD" ! OPTION #H
510 A$="CS1." :: K=2 :: GOTO 520 ! OPTION #I
```

Just remember that lines 180-330 are the names displayed on the screen menu and not necessarily the filename of the program you enter in lines 360-510. Also make sure that these occur in pairs; line 180-menu for option #3; 360-filename for option #3.

Now add:

```
511 CALL INIT :: DELETE "XBCALL" :: CALL LINK
    ("DN",3) :: DISPLAY AT(12,3)ERASE ALL:
    "RAMDISK IS NOW DRIVE #3" :: RETURN
```

What I have done is to put all the E/A type programs on the left side of the menu (options 1-9) and all my extended basic programs on the right side (options A-I). This is a matter of choice so you may do it differently than I did it. Just note that all E/A type programs must be loaded like DM1000 in line 360 by setting A$="filename", etc.. All extended basic programs require a RUN type statement and, depending on whether you want to use floppy drive #1 or not, you will have to precede the RUN with the GOSUB 511 which changes the ramdisk to drive #3. If you want the extended basic program you load to return to the Funnelwriter LOAD program, which is a real convenience, you must alter each of these programs slightly. If there is an END statement in the program it must be replaced with the following lines:

XXX CALL INIT :: DELETE "XBCALL" :: CALL LINK
    ("DN",1)
YYY DISPLAY AT(11,5)BEEP ERASE ALL:"RAMDISK IS
    DRIVE #1" :: FOR I=1 TO 500 :: NEXT I ::
    RUN "DSK1.LOAD"

If there is no END statement then you probably can add
these lines to the end of your program. Use whatever
line numbers you require in place of XXX and YYY.

Obviously unless you have a 720 sector double-sided
ramdisk you will not be able to have all the programs I
show in my version of the LOAD program. I used all 720
sectors on my ramdisk and could have used more if they
were available.

You don't have to but I used ULINSTL to modify the UL
program to only show the programs I have on my disk, not
necessarily the choices shown originally. Unless you
quit and restart you can't get back to the main menu of
the load program. Therefore I've entered all of the E/A
type programs shown in the main menu in the UL menu (you
can't load extended basic programs from UL). After I
added the programs I wanted to the menu I deleted the
ULINSTL choice because I wouldn't need this program again
and it eats up disk space that I could use for another
program. Also delete the file ULINSTL from the disk.

The final changes I made to the LOAD program are
optional. If you plan to use any of the programs listed
or you aren't comfortable mucking around in sectors, do
not make these changes. These are more for convenience
than necessity. Even if you don't have the called
programs on the disk, it will work without these changes
but not as gracefully. You must find the sector that has
"c-COMPILER" on it. After the word FORMATTER near the
top of the file I have: _DIRECTORY_____USER_LIST_
DIRECTORY_USER_LIST_. Each "word" (like USER_LIST_) must
be 10 spaces long so be careful making these changes.
Next a little further down or possibly on the next sector
I have these changes. ASSM1..DSK1.QD__.DSK1.__ and after
UTIL1.UL2DULQD__. The "_" I've shown represent a
necessary space character which must be included. Make
sure you only have one space between FORMATTER and
DIRECTORY.

You can now test the LOAD program with the disk in
drive #1. If it doesn't crash you may remove the ""
from line 101 and continue. Now add the files you are
calling for in lines 360-510 to your disk. If you only
have SSSD drives and you are filling a DSSD ramdisk you
will have to copy the files from the disk you've created
to the initialized DSSD ramdisk and copy the remaining
files necessary to the ramdisk after. Once you have a
complete ramdisk the way you want it, make a file-by-file
back-up copy to a DSSD or to two SSSD disks. I backed up
my ramdisk using QUICK-COPYII which copies files in order
and unfractures them in the process.

Now you can test run the ramdisk to see if it works
and all main and UL menu entries function properly. Run
all the choices and make sure that all your extended
basic programs return to the LOAD program if you modified
them to do so. If you get any errors trying to load from
the main menu and the programs breaks, DO N'T make the
changes in the indicated line and resave. As I stressed
before, type "OLD DSK1.LOAD", edit the line and resave.
Once everything works properly make a corrected back-up
of the corrected ramdisk.

WHY I DID WHAT I DID

It might appear that the two lines I've added to the
extended basic programs on my ramdisk and line 101 of the
Funnelwriter LOAD program are redundant but there is a
reason for them. No matter what drive you have defined
the ramdisk to be, line 101 will make the ramdisk drive
#1. So you can type RUN "DSKn.LOAD" from the command
mode and the ramdisk is immediately made drive #1 to
allow the LOAD program to function properly. The "n" in
DSKn represents the correct drive number of the ramdisk
before you run it.

You could have previously CALLed the ramdisk be drive
#3-#6 if you were using your floppies for disk copying or
running some other program, not on the ramdisk, which
doesn't return to the LOAD program. If you are in
extended basic and type in "OLD DSKn.DISKLABEL", which is
the quickest way to load an extended basic program
(there's no reason to go through the LOAD program to load
an extended basic program), the DISKLABEL program doesn't
know what drive # you have defined the ramdisk to be.
When you exit the program the first of the two added
lines (XXX) makes the ramdisk drive #1 so the second line
(YYY) can RUN "DSK1.LOAD".

My option #A simply allows you to go directly to basic
from the LOAD program if you want to enter another
program, still keeping the ramdisk as drive #1. Option
#B is the same except the ramdisk is switched to drive
#3. With both these choices the LOAD program is still in
memory when "READY" appears on the screen so you must
type "NEW" before entering a program from the keyboard.
If you don't, what you will end up with is the LOAD
program with your lines overwriting any same line
numbers. Option #C makes the ramdisk #3 and will load
and run any disk you have in floppy drive #1. Just make
sure that the disk is in the drive before you make this
selection or you will get an error message.

Also make sure that all the programs you include on
your ramdisk will work properly with it. Some programs
like BA-WRITER, TI-ARTIST, etc., either will not work
with the ramdisk or have some problem that prevent them
from being fully utilized. The programs I have listed in
the LOAD program all work without problems. Any E/A type
program with its own disk DSR routine probably won't
work. With one track copying program, this isn't a
problem. It means I don't have to switch the ramdisk to
drive #3 because the copy doesn't recognize the ramdisk
and only copies from floppy #1 to floppy #2. The
GRAPH-PACK entry is fictitious but I will say that my
favorite graphic programs work fine from the ramdisk.
You will have to be responsible for adding any
copyrighted commercial software to your own ramdisk.

The changes I made to the two sectors with
"c-COMPILER", etc., make the number 5 choice from what
they call the central menu screen (SWITCH) cycle through
the choices FORMATTER, ASSEMBLER, DIRECTORY, USER LIST,
DIRECTORY, USER LIST, and around again. All the choices
I need are on the main menu or the UL menu so these
changes erase the choices I wouldn't use without leaving
any blanks or giving any load errors.

These changes make the Funnelwriter ramdisk
combination what I consider "user friendly". I hope this
article gives you some clues that will make using your
ramdisk and Funnelwriter easier.

```
TAX-INVEST     TIMP     Multiplan overlay.
TE3-DIALER     E/A      Good terminal emulator for ASCII files.
TEST        *  XBASIC   $6.50 W/Documentation.
TESTSYSTEM  *  MM       >TI diagnostic disks. Check out your system.
TI/DEMO        BASIC    Several demos T.I. gave to their dealers.
TIPS           XBASIC   Tips from the Tigercub.
TI-SINGS       TE II    Hear your computer sing! Speech synth. required.
TI-SINGSXB     XBASIC   Xbasic ve  s            d   w  TE  verlia  re
TI-TIPS_01  *  TIWTR    DIS/VAR80 files with useful tips. GOOD reading. > $5
TI-TIPS_02  *  TIWTR    More of the above.                              /
TI-TIPS_03  *  TIWTR    More of the above. \
TI-TIPS_04  *  TIWTR    More of the above       $5 FLIPPY
TI-SORT        E/A-8K   Assembly language sort routines for E/A-8K SUPERCARTRIDGE.
TIMP&TIWRT     WTR-MP   Updates for TI-WRITER and MULTIPLAN.
TIWRITER'S     TI-WTR   Reference material for FUNLWRITER and others.
TIWRTPIOUP     TIWTR    PIO version of TI-WRITER.
TK*S*DUP       XBASIC   Disk copier program.
TRIVIA99ER     XBASIC   Trivia database.
TRIVIABASE     XBASIC   Another trivia database.
VIDEODEMOS     XBASIC   A must have graphics demo.
WORDCOUNT      XBASIC   FAIRWARE assy. lang. utility. GOOD
WORKHORSE      XBASIC   Good collection of utilities.  Don t miss this one
XB-GAMES       XBASIC   Arcade quality games.
XB-GAMING1     XBASIC   More arcade quality games.
XB-LESSONS     XBASIC   T.I.'s xbasic lessons on disk.
XB-WRITER1     XBASIC   One of the best TI-WRITER disks available.
XBASIC-UT1  *  XBASIC   Great utility disk from Travers. > $5 FLIPPY
XBASIC-UT2  *  XBASIC   More of the above.                /
X_D            E/A      Assembly language utility and demos.
```

F O R T H   D I S K S

**NOTE: Many 4TH disks have program information on screen 2 and
screen 3. Use LIST or -PRINT to see these screens. Many
of the "programs" on these disks are well documented.

DISKNAME	LANGUAGE	COMMENTS	COMMENTS	COMMENTS
4TH/BACKUP	XBASIC	Disk copier program in FORTH. Donation requested.		
4TH_CLONER	E/A	Another disk copier program in FORTH.		
4thDOODLES	E/A	Good bitmap graphics demo.		
DATADISK02	E/A	Demos, utilities, and games. read SCRs 1, 2, and 3.		
DATADISK03	E/A	More of the above.		
DATADISK04	E/A	More of the above. Includes the game COSMIC CONQUEST.		
SOURCE-A	E/A	The sorce code for T.I. FORTH.		
SOURCE-B	E/A	Part 2 of the sorce code for T.I. FORTH.		
SYS-DISK02	E/A	Modified 4TH disk with autorepeat, etc..		
TE4TH	E/A	Terminal emulator program in FORTH.		
TI-FORTH	E/A	T.I.'s original FORTH disk.		
UTILITY4TH	E/A	Many utilities plus HELP and instruction screens.		
UTILSOURCE	E/A	Sorce code for UTILITY4TH.		
VOLKFORTH1	E/A	More 4TH goodies. Check line 0 of all SCRs for clues.		
VOLKFORTH2	E/A	Mote of the above.		
XB-FORTH	XBASIC	4TH version that loads from XBASIC.		
FORTHXLD1	XBASIC	Two disk modified 4TH disk set.		
FORTHXLD2	XBASIC	continuation of above.		
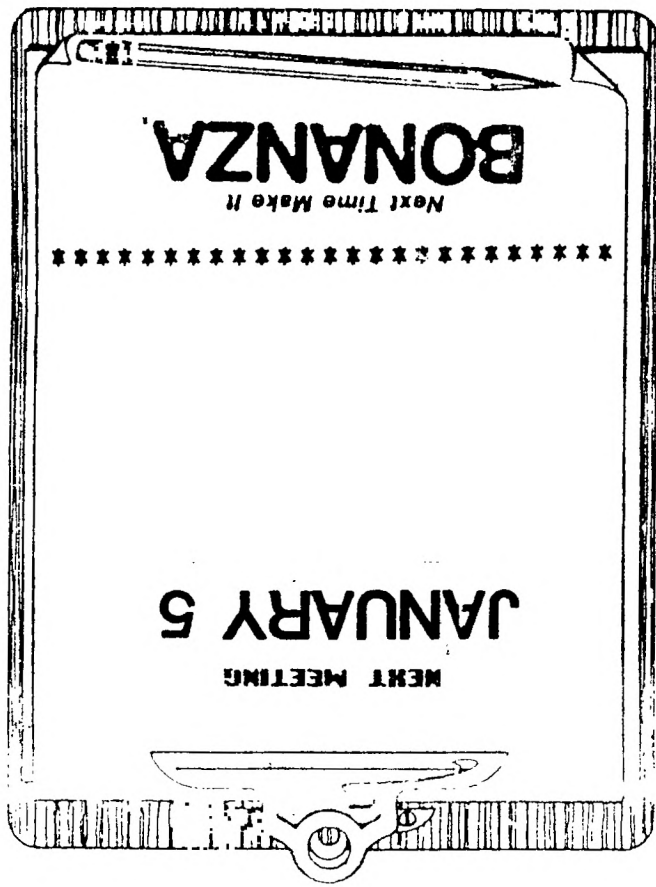
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