

NEW HAMPSHIRE 99'ERS
MAY 1985
NEWSLETTER



NHUG NEWSLETTER - PO BOX 7199 HEIGHTS STATION - CONCORD, NH 03301 - VOL. 3 NO. 5

(((RANDOM RAMBLINGS)))

First an apology. I lost my notes from the last meeting and am writing the following from memory...

Don Clark brought in his new monitor and announced sale prices at SERVICE MERCHANDISE on 13" AMDEK COLOR-I Plus w/speaker and audio amplifier, 260 X 300 resolution, \$230; and 12" NEC 210 X 150 resolution, \$160.

Mark Weir spoke on his quests to find knowledgeable dealers who carry TI wares in the New England area and suggested the Computer Sense Center, Inc. - 86 East Main Street - Westborough, MA 01581 (617/366-4644). Nancy E. Shoucair is the Director.

Bob Johnson had ordered software from the IUG, hadn't received it, called, and found their line disconnected.

The GRAPHX programs were distributed. Can you believe... the order was airmailed to Australia on 4/6 and was received by priority mail on 4/20! Richard Bailey's preliminary review can be found in this issue. Within a week he supplied an addendum. Needless to say, he is quite enthusiastic about GRAPHX. By the way, Richard Scott has found that DRAW-and-PLOT files can be addressed (and thus, fine tuned) via GRAPHX.

Curtis Alan Provance is our "new" author this month. Curtis is an engineer for Sanders, owns a "full-blown" system and prefers to develop his own programs and improve upon existing ones. He is working on writing a utility program that will beef-up the interpreter. We certainly look forward to a series of articles from Curtis!

Ellen Rule has been working on cassette versions of applicable software from our library. We don't have a listing as yet, but should have it by the May 29th meeting. Thanks Ellen, WE know how time consuming that task really is!

We have received Redwick's program CARGO RUN for review. It is a highly sophisticated economic adventure. We need an experienced "adventurer" to review this copyrighted program for the newsletter. This program is quite involved, so we need someone who has the time to give it a proper "run". If interested contact me (Helene - 472-3369).

The club library now has a copy of Joseph and Susan Berk's book, FINANCIAL ANALYSIS on TI COMPUTERS. The book contains 18 chapters on various topics of financial interest written in a user-friendly format, but at a level where the analytical technics provide powerful tools for students, business people, or anyone else interested in maximizing wealth. Each chapter contains a brief explanation of the analysis technic, one to four example applications, and the program listings. The programs are written in TI BASIC! The book is available for inspection at the meetings and available on loan thru the club's library.

(((FROM THE MAILBAG)))

TRITON - PO Box 8123 - San Francisco, CA 94128 (1-800/227-6900). Their newest catalog features many price reductions.

Among the better deals include: TI Peripheral Expansion System @ \$300; Speech Synthesizer @ \$50; and TI Extended Basic for \$50.

CORCOMP - 1255 North Tustin Avenue - Anaheim, CA 92807 (1-714/630-2903). Issue 3 of the CORCOMP CURSOR is in. It features articles on interfacing printers with their RS232 Card. They are offering a FREE Disk Drive Care Package if you buy a CC 9900 Disk Controller Card from an authorized dealer from now until 6/15/85.

OSRAM INDUSTRIES - 644 Belton Avenue - Victoria, B.C., CANADA V9A 2Z6. OSRAM sent literature on the RAMPORT for the 4A. It features: 8K CMOS RAM; Battery Backup; and RAMLOCK PC emulator. \$60 postpaid (US).

***The next meeting will be held in the function room of PABLO's at 7:30 pm on WEDNESDAY, MAY 29th. The June meeting has been scheduled for the 26th.

N.B. I have just been reminded that, as provided by our charter, we must hold elections in June. Prepare your speeches!

**CHANGING THE PRINTER DEFAULT
IN FORM1 USING TI FORTH OR
DISKE AND EDITOR/ASSEMBLER**

Richard Bailey
68A Ct
Gonic, NH 03067

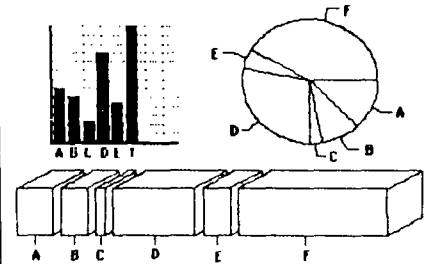
When you use the TEXT FORMATTER of TI-WRITER you have to enter the file-name of the file you wish to print and then the program asks for the printer name. The program displays a default name that it will accept if you just press enter. If this name isn't the same as your printer name you have to enter your printer name and this is an inconvenience. You can change the printer default name to agree with your printer if you have FORTH or DISKE with the EDITOR/ASSEMBLER. To change the name you have to find the default name in the FORM1 program. The following instructions are correct for the disk they originally appeared on but the only difference on any other disk will be the sector number w/DISKE or the screen number w/FORTH that contain the default name. Back up your original disk and make any changes to the copy, just in case.

To change the name with FORTH you will load the -EDITOR option. After you get the OK, enter DECIMAL EMPTY-BUFFERS 22 EDIT. Change the printer name that appears on line 0 to agree with the name of your printer. Enter FCTN 9 then FLUSH to rewrite the screen.

To change the name with DISKE choose the DISK SECTOR EDITOR, the correct drive number and sector number 53. Enter FCTN 2 for ASCII and move to line 3 and change the name of the printer. Enter FCTN 8 and answer "YES" to rewrite the sector.

Remember that this procedure will work on any disk that has the FORM1 file but you will have to find the location of the default values in the FORM1 file that could be at a different screen location or sector number.

**EXTENDED BUSINESS
GRAPHS!**



The latest business and chart utility available for the TI-99/4a!! Allows users to input and graph any set of data or statistics. Features BARGRAPHS, PIE CHARTS, LINEAR GRAPHS, and THREE DIMENSIONAL CHARTS all in one package! Graphs can be saved to disk for later use and printed with any dot matrix printer - (Epson, Gemini, TI, Pro-Writer, Axiom, etc) No need to buy extra plotter programs!! Great for business, home or school!!! Requires Ext. Basic, 32k, and one disk drive. \$24.95 POSTPAID
GREAT LAKES SOFTWARE
804 E. Grand River Avenue
Howell, MI 48843

WRITE FOR FREE CATALOG!

**NEW SCREEN
COLORS FOR
TI-WRITER**

Paul G. Lanoie
PO Box 658
Berwick, ME 03901

As it says on page 5 of the TI-Writer manual, there are 5 other character/screen color combinations available for your selection. This feature gives you five more choices to suit your eye. I was interested in using black letters on a white background, a popular choice for use with green monochrome monitors like mine. I have figured out how to modify the TI-Writer disk in order to alter the five optional color selections to any combination that you may desire. Like the original TI-Writer, the optional colors are only available in the "TEXT EDITOR" mode.

The TI-Writer disk file that controls the optional colors is the one named "EDITAI". The objective of the following procedure is to find the data statements that set the optional colors in the "EDITAI" assembler program. On the original TI disk these statements are located at sector 022, and on the NH User's Group enhanced version, the sector location is 02A. I found this information by using the disk utility program called "DISKE". First boot up the DISKE program from the Editor-Assembler "Load and Run" option. Select the "FIND AN EXISTING FILE" option. Put the TI-Writer disk in your drive. In response to the "DRIVE NUMBER" prompt, enter 1 or 2. In response to the "FILENAME" prompt, type EDITAI. "DISKE" will show you that "EDITAI" starts at sector 02A, (or 022 for the TI original version) which also happens to be where the color data statements can be seen.

Now, still using "DISKE" select the "Disk Sector Editor" option. In response to the "Disk Sector" prompt, enter 02A (or 022). What you will now be looking at is the hexadecimal notation for the assembly object code. On the last 2 lines, are five assembly data statements as follows; 87F4, 8713, 87F3, 8717, 87F1. Broken down, these statements mean;

- 8 -means nothing, but required by the 9918 VDP chip in the TI console.
- 7 -data will go to the 9918 VDP register no.7.
- F -character color to be white.
- 4 -background color to be blue.

As you can see, white letters on a blue background is the first of the five available options. (page 5 of TI-Writer manual). The next four data statements represent the other four options.

Now, using the "Rewrite Sector" option of "DISKE", you can rewrite any one of the options or all of them for that matter. For example, I rewrote one of the options as follows;

My 8713(black letters on green screen) became
871F(black letters on white screen)

There you have it. If this sounds confusing it really isn't that bad. But as always, relatively simple procedures sound confusing when put into words. I suspect that this rewrite of the TI-Writer disk can be done in other ways, but it happens that "DISKE" is the way that I understand. Summing up the important data;

"EDITAI" starts at sector 02A in the enhanced version of TI-WRITER
" " " " " 022 " original " "

The 87xx statements are on the last 2 lines of the sector.

The 87 part stays the same.

Change the xx part to change to the desired colors.

Now, does anyone know how to do this with the Editor-Assembler? I just got my E/A and I haven't figured this out yet.



**Review of GRAPHX
The Ultimate Graphics Software**

by
Richard J. Bailey
68A Church Street
Gonic, N. H. 03317
NH997ERS USER #1111P

We've all seen promotional literature for various pieces of graphics software that claim their program is the greatest. I owned DRAW N' PLOT and although it worked fairly well, its oddly located function keys did not make it user friendly, its instruction manual is terrible, and at nearly \$40, I expected more. GRAPHX, on the other hand, does live up to its claims and is extremely well documented. It even comes with a function key overlay so you don't have to keep referring to the instruction manual to find what functions are available.

To load the MINIMEMORY version takes approximately one minute. The title screen (shown at left, top) is actually a slide show that "scans" through 12 different "frames" shown on the screen of the monitor drawn on your screen. The 12 "slides" are shown left, below the title screen. When you follow the directions to "PRESS ANY KEY", you immediately go to a blank screen with "crosshairs" around where the cursor will be.

There are always help lines on the screen to tell you exactly what options are available to you from the mode you are currently in. Even though the help lines are on the screen, they really don't interfere with your drawing area. If you get too close to the lines at the top of the screen, they switch to the bottom. If you want to see your picture without any help lines, simply select NOHELP on the function key overlay to remove the lines and view your masterpiece uncluttered. The lines automatically reappear if you move the cursor to start drawing again—really well thought out and functional.

I should mention that you don't have to press the FCN key whilst selecting options from the overlay. One only has to press the key for the desired function and not the FCN key, making GRAPHX easier to use. There are many small details like this that obviously got a lot of thought from the creators of GRAPHX. (One has to get used to occasionally finding the Queen's english popping up in the text of the manual.) One of the more interesting functions is ZOOM which allows you to enlarge an area 16 times so you can do detailed work. The cursor has 5 speeds and the slowest of these is great for working on an enlarged segment of your drawing. Two of the other functions that are interesting are LINES and CIRCLES. LINES lets you create and position a line to see how it looks before it is actually added to your drawing. CIRCLES allows the creation of circles and ellipses that can be changed and moved until you get just exactly what you want then they can be added to your picture.

The many menus are clear and easy to use. They require using the joystick to move to the desired option and pressing the fire button to select that option. There are also animation examples using the clipboard option that allows storing small drawings or pieces of drawings that can be recalled and added to other screens to create complex drawings from a library of pieces. The clipboard also has 3 print styles (gothic, computer, and hollow) that can be used in your drawings. You also have a typewriter mode for labeling graphs, etc. Some of the other options allow full colour pictures, moving or copying parts of a picture, filling shapes, saving to disk in full color, printing using normal or double size, single or double density. You can have a grid superimposed on the screen to make drawing or transferring pictures to the screen from paper easier.

Now for some criticism. GRAPHX hasn't made me an artist—I still draw stick figures only now I do them faster and easier. Also I would like to see the ability to tab the pictures on the printout or rotate them as in Danny Michael's excellent screen dump program. Other than these minor points, I've been totally pleased with GRAPHX. If you don't have it, you should get it!!



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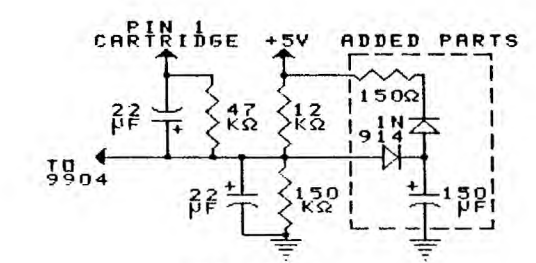


FIGURE 1

because it can't be added later. The grid divides the screen into 8x8 (pixels) squares that just happen to be the same size as a printed character block. The reason this is important is that if you want to add text to the schematic, it helps to know where the text characters will be in relation to the components that you will generally add to the screen before the text.

Once you have a clipboard with all the components that you will need, (and I should by the time you read this) it becomes easy to just scan through the clipboard, pick out the component you need, and copy it with pixel precision to as many screen locations as necessary before choosing another component. It will help to draw a rough schematic on graph paper to get an idea of where to place components and how they will fit on the screen before you actually start.

If what you've seen impresses you enough to want to order GRAPHX, contact Helene LaBonville, 121 Camelot Drive, Bedford, N.H. 03102 because the price if 5 or more copies is ordered is only \$30.00. Buying through the club will thus save you \$20.00 off the single price. It takes approximately 2 weeks after the order is placed to receive it. Not bad seeing it's from Australia.

Using GRAPHX to draw schematics

by
Richard J. Bailey
68A Church Street
Gonic, N. H. 03317
NH997ERS USER #1111P

The schematic diagram shown left was drawn using the GRAPHX software package. To draw schematic representations of components and place them on the screen isn't as hard as you might think; at least once you get the hang of it and have created and saved components to the clipboard for future use.

I'd suggest doing schematics on the 'gray box' grid that you can superimpose on the screen. This grid doesn't print so just choose the grid before you start drawing. The grid divides the screen into 8x8 (pixels) squares that just happen to be the same size as a printed character block. The reason this is important is that if you want to add text to the schematic, it helps to know where the text characters will be in relation to the components that you will generally add to the screen before the text.

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**WHERE DO I SELL
ROBOTICS?**

Tau Ceti, Alpha Centauri, Sirius... We could list several star systems with a favorable robotics trade, but circumstance is often the final determinator. Distance and fuel price, for instance. Or tax rates. In fact, this is just the beginning! Expected product availability, past dealings, and other cargo in your hold all play a part in your decision. As a Class 'C' trader, you depend on careful planning and meticulous attention to detail. Your survival may well depend on your ability to weigh the facts and read between the lines.

'Cargo Run' is an economic adventure set in the galaxy of the future. As a galactic trader, you explore the worlds that make up the Galactic Traders Union, buying and selling various cargos and staying one jump ahead of your creditors. A good eye, sharp wits, and an entrepreneurial spirit are a must!

Cargo Run is available for the Apple II+, IIe, and IIc and for the TI99/4A. TI version requires extended basic (disk also requires 32K). 'Cargo Run' can be purchased from your local retailer or directly from Redwick (\$29.95).

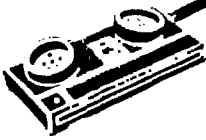
REDWICK

POB 441256, Somerville, Massachusetts 02144

TELECOMPUTING
THE LINK BETWEEN COMPUTERS

Part 2

By Phil Chouinard



Now that you're ready to go on line you'll be running into a few technical things that may seem to confuse you at first. When you start up any communications software you will be asked for the "SET-UP" or parameters for the software to use. Generally you will be able to use the default options on TE2 and many other types as well. Here is an explanation of some of these questions.

BAUD RATE: This is the speed at which the data is transmitted. You may be familiar with this term because it is the same as that used for your printer. The TE2 command module is only capable of 110 or 300 baud. The baud rate you use is determined by the modem. You will want to use the fastest possible to cut down on connect time. One important thing I've found is that if you are reading on the screen as the information arrives, as with a local bulletin board, 300 baud may be acceptable. If you are transferring programs or files over the phone 300 baud can seem very slow. A small program can take 5 to 10 minutes to transfer. If you decide to go with 1200 baud you may find that you can have troubles because of noisy phone lines. Because of the faster rate of transfer it is more susceptible to errors.

PARITY: Many systems do not check parity. When a byte of information is sent in its binary form the last bit is added to make the total an even number or an odd number which ever you choose. This is the computers way of checking all the bytes to see that they have been received correctly.

DUPLEX: This parameter simply decides whether the modem should echo the characters back to you or let the other computer send your own characters back to you. If you choose full duplex when you type in some characters they will be sent to the modem and then to the other computer which will then send them back to you. If the other computer is in half duplex and you are in full you will not see the characters that you type onto the screen.

COLUMN WIDTH: Here you should choose the widest possible for your monitor. TE2 uses a 40 column display but some monitors or TV screens will loose some characters on the edges.

7 or 8 BITS: If you are sending an assembly language file which is in the display fixed format TE2 will ask you if you want 7 or 8 bits transmitted. If you see this question on the screen choose 8 bits. Some of the control characters will not be transferred properly if you don't.

NULLS: You may be asked if you need nulls. The answer is no. Nulls are mostly used for things like teletypes which need some time for the carriage return.

LINE FEEDS: Your TI99/4A will need line feeds. I found this out the hard way. so if you are asked this answer yes.

UPPER LOWER CASE LETTERS: Your TI will also support upper and lower case letters. Sometimes you are asked this question. Answer yes.

Using this information you will be able to sign onto all kinds of bulletin boards and information services. At this point you will still have to learn how to use the telecommunications software you have chosen and the software of the bulletin boards you call. This is usually not too hard. When you first sign on notice if there are any help files and how to properly hang up. The modem on the bbs will not hang up just because you have. This will cause the system to have a busy signal until someone on that end notices. Many systems will hang up if there is no key pressed in 2 or 3 minutes. You can't depend on that though so try commands like; BYE, LOGOFF, OFF, or H. Using one of these commands will keep you in good standing with the System operator (SYSOP).

PLEASE... AVOID DISAPPOINTMENT, RESERVE YOUR LIBRARY SOFTWARE
PRIOR TO THE MEETING. EVEN IF YOU'RE "JUST INTERESTED" IN A
SELECTION, IT SAVES US A LOT OF TIME IF WE CAN COME PREPARED!!

Call or write: Helene LaBonville - 121 Camelot Drive RFD5 - Bedford 03102 (603/472-3369)

ADVANCED DIAGNOSTICS

SOFTWARE REVIEW by - Jim Jagielski

ADVANCED DIAGNOSTICS is a complete memory and diskette/disk drive diagnostic program. You may be wondering, what makes this diagnostic program different from others? Well, have you ever wondered how data on your diskettes are organized? Have you ever accidentally deleted the wrong program or file? Do you have an interest in familiarizing yourself with disk controllers and how data is saved and retrieved from the disk? ADVANCED DIAGNOSTICS will address these questions and more.

This program is completely compatible with the CorComp Double Density Disk Controller. If you have the CorComp Controller, you can format half of a diskette in DD and the other half in SD! As a matter of fact, by formatting only used tracks you can create some sort of disk copy protection for your diskette. For example, diskettes can be copied by using FORTH's 3-pass Disk Copy Routine, but if a track is left unformatted, then the Copier can't continue and it will return with an error which will halt the copy process. So far, I have discovered how to remove Proprietary Protection from a disk and I also discovered how to remove the protection which is placed in an Extended Basic program when it is saved with the PROTECTED option. The manual that comes with the program DOES NOT tell you how to remove protections, but you can figure-out a particular protection by trial and error.

There are many commands in Advanced Diagnostics which will show you: Disk directory, disk drive motor speed, bad sectors, and bad memory location, just to name a few. These commands can be placed in a command file which has been created by TI-WRITER or the Editor in the E/A to perform various tasks such as formatting a box of new diskettes.

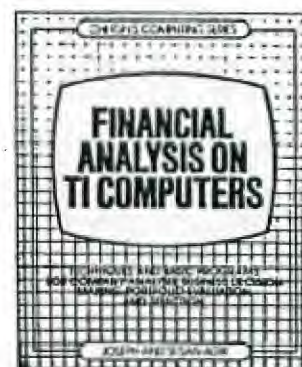
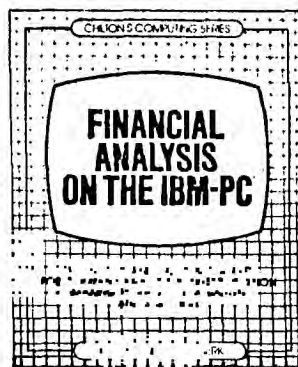
ADVANCED DIAGNOSTICS can also be configured to your system, specifically your printer, so that everything is correctly configured after the program is booted. Other nice functions in the program include a screen dump, and paging of a HELP file which will display all of the commands known to ADVANCED DIAGNOSTICS. This paging of the help file can be done on any screen.

As you can tell, I am very pleased with the program and documentation (34 page manual). I recommend this program to any one who would like a better understanding of their disk memory system's operation. For \$19.95 + \$1.50 (S/H) I find ADVANCED DIAGNOSTICS to be a great bargain!

For members who would like me to look at their disks which have blown directories or lost files please send a letter explaining your problem to: Jim Jagielski - Rt 1, Box 826 - Sanbornville, NH 03872.

I might be able to restore files and directories, if you have not saved anything to the disk since the time of the incident.

If you would like to order ADVANCED DIAGNOSTICS, then send your request to: MILLER GRAPHICS - 1475 W. Cypress Ave. - San Dimas, CA 91773.



Financial Analysis On The IBM-PC®

Financial Analysis On TI Computers

by Joseph and Susan Berk

Corporate business analysts, small business managers, MBA candidates, investors — in fact, everyone who does financial analysis and owns or uses an IBM-PC® or TI Computer will value these two books. Each contains a comprehensive but concise presentation of the key quantitative analytical techniques used in business every day. Each analytical technique is explained in full, with examples to show how it can be applied, and each is accompanied by the relevant formulas and a computer program listing. You'll save time by letting your computer handle the drudgery of computations.

The programs provided here can be used for company analysis, business decision-making, stock evaluation, or personal investment selection. Specific topics covered include: financial ratio analysis; cost-volume-profit determination; pro forma financial forecasting; cost of capital; depreciation; inventory level analysis; correlation and regression analysis; stock analysis; time value of money, and net present value project selection.

Joseph Berk has an MBA from Pepperdine University and is an executive with Aerojet Ordnance Co. Susan Berk has an MBA from California Polytechnic University and manages information systems at TRW's Ballistic Missiles Division.

FINANCIAL ANALYSIS ON THE IBM-PC®
September/160 pages/7¼" x 9"
Pb ISBN: 0-8019-7546-8 \$10.95

FINANCIAL ANALYSIS ON TI COMPUTERS
September/160 pages/7¼" x 9"
Pb ISBN: 0-8019-7518-2 \$12.95

Chilton's Computing Series

TIPS FROM THE TIGERCUB

#21

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TIGERCUB SOFTWARE
156 Collingwood Ave.
Columbus, OH 43213

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The entire contents of Tips from the Tigercub Nos. 1 through 14, with more added, are now available as a full disk of 50 programs, routines and files for just \$15.00 postpaid!

Nuts & Bolts is a diskfull of 100 (that's right, 100!) XBasic utility subprograms in MERGE format, ready for you to merge into your own programs. Contents include 13 type fonts, 14 text display routines, 12 sorts and shuffles, 9 data saving and reading routines, 9 wipes, 8 pauses, 6 music, 2 protection, etc., and now also a tutorial on using subprograms, all for just \$19.95 postpaid!

And I have about 140 other absolutely original programs in Basic and XBasic at only \$3.00 each!(plus \$1.50 per order for cassette, packing and postage, or \$3.00 for diskette, PPM) Some users groups charge their members that much for public domain programs! I will send you my descriptive catalog for a dollar, which you can then deduct from your first order.

I thought that my 28-Column Converter, as published in Tips #18, was

finally foolproof, but someone found a way to print a program incorrectly with it!

I'm sure you know that characters 127-143, and on up to 159 in Basic, can be redefined and used in graphics. You probably also know that these redefined characters can be put into PRINT or DISPLAY AT statements, by holding down the CTRL key as you type them. If you load a program containing such redefined characters and LIST it, they will appear as blanks. If you RUN the program, so that they are redefined by the CALL CHAR statements, and then LIST it again, they will show up in their redefined form - but if you print out the program on your printer, they will still appear as blanks. So, before you publish a program, it's a good idea to RUN it and LIST it, and look for any of those gremlins.

If you do want to publish such a program, this fix will take care of it by underlining all characters that must be typed with CTRL down (except that lower case v is typed with FCTN down). It's slow, so only use it when you need to.

```
190 IF U$="E" THEN 195 :: PR
INT #2:".TL 126:94;" :: PRIN
T #2:".TL 123:64;" :: PRINT
#2:".TL 125:38;" :: PRINT #2
:".TL 124:42;" :: PRINT #2"
.TL 92:46;" :: PRINT #2".NF
"
195 PRINT "Does the program
contain":"redefined characte
rs above":"ASCII 126? (Y/N)"
196 ACCEPT AT(24,1)VALIDATE(
"Y")::QUS
282 IF QUS="N" THEN 290
283 FOR J=1 TO LEN(L$)
284 A=ASC(8E6$(L$,J,1)):: IF
AK127 THEN L2$=L2$&CHR$(A):
: 6010 288
285 IF A=127 THEN A=118 ELSE
IF A=128 THEN A=44 ELSE IF
```

```
A=155 THEN A=46 ELSE IF A=15
6 THEN A=59 ELSE IF A=157 TH
EN A=61 ELSE IF A=158 THEN A
=56 ELSE IF A=159 THEN A=57
ELSE A=A-64
286 L2$=L2$&CHR$(27)&CHR$(45
)&CHR$(1)&CHR$(A)&CHR$(27)&C
HR$(45)&CHR$(0)
288 NEXT J :: L$=L2$ :: L2$=
""
```

That should do it, unless the number of added control characters stretches the line beyond 80 characters. Such is the case with the following, which I had to type in manually (it also contains low ASCII characters which the printer misinterprets as controls).

TIGERCUB CHALLENGE

```
100!The Unprintable Unkeyabl
e Program!
110!To shuffle the numbers 1
to 255 into a random sequen
ce without duplication
120!The strings contain the
ASCII characters 1 to 127 an
d 128 to 255
130!Most of the ASCII charac
ters below 32 or above 159 c
annot be input from the keyb
oard
140!So how was this program
programmed?
150 M$=""
!"#$%&'()*+,-./0
123456789:;<=>?@ABCDEFGHIJKL
MNOPQRSTUVWXYZ[\]^_`abcdefg
hijklmnopqrstuvwxyz{|}"
160 M2$=""
"
170 M$=M$&M2$
180 L=LEN(M$):: RANDOMIZE ::
X=INT(L*RND+1):: N=ASC(8E6$
(M$,X,1)):: M$=8E6$(M$,1,X-1
)&8E6$(M$,X+1,LEN(M$))
190 PRINT M$:: IF LEN(M$)=0
THEN STOP ELSE 130
```

GROCERY SHOPPING LIST

Are you desperate for some way to convince your wife that your computer and PEB and printer and all are not just a too-expensive plaything? Maybe this will do the job.

The first thing to do is to prepare a file of the grocery items she might want to buy. It will be especially useful if you can list the items in the sequence in which she will come to them in the aisles of her favorite store. This little program will set up the file. Type END when you are finished.

```
100 OPEN #1:"DSK1.BUYLIST",0
UTPUT
110 INPUT A$
120 IF A$="END" THEN 150
130 PRINT #1:A$
140 GOTO 110
150 CLOSE #1
```

If you have TI-Writer, you can also use that to create the file, edit it and add to it - but BE SURE to delete all the carriage return symbols and any blank lines at the end. Save it under the filename BUYLIST.

Next, this program will hopefully get your wife to actually sit down at the keyboard and try out your computer. It will go through the list and ask if she wants to buy. If she types in any quantity other than 0, it will output the item name and quantity to the printer. At the end, she will be given the opportunity to add any other items.

```
100 CALL CLEAR
110 OPEN #1:"DSK1.BUYLIST",1
NPUT
120 OPEN #2:"PIO"
130 LINPUT #1:A$
140 IF EOF(1)THEN 210
```

```

150 DISPLAY AT(12,1):A@
160 DISPLAY AT(12,LEN(A@)+2)
:0"
170 ACCEPT AT(12,LEN(A@)+2)S
IZE(-4):@
180 IF @=0 THEN 130
190 PRINT #2:A@&" *&STR$(Q)&
" *&CHR$(175)
200 GOTO 130
210 DISPLAY AT(12,1):"ADDITI
ONAL? Y"
220 ACCEPT AT(12,13)VALIDATE
("YM")SIZE(-1):@
230 IF @="N" THEN 300
240 DISPLAY AT(12,1):"ITEM?"
250 ACCEPT AT(12,7):A@
260 DISPLAY AT(14,1):"QUANTI
TY?"
270 ACCEPT AT(14,11):@
280 PRINT #2:A@&" *&STR$(Q)&
" *&CHR$(175)
290 GOTO 210
300 CLOSE #1
310 CLOSE #2
320 END

```

The list will be in enlarged print, so that no one in the store will see her putting on her reading spectacles. And after each item and quantity is a blank square to be checked off when she picks up the item.

You might also point out that she could use the checkoff blocks to mark the items she has coupons for, and she could jot down prices on it to be sure she isn't cheated at the checkout counter, or to shop for better bargains elsewhere.

The program is set up for the Gemini printer. You may need to change the "PIO" to the name of your printer, and other printers may not have the open block character CHR\$(175) available.

Of course, you can also use this program for more important things, such as shopping for computer software....!

If you type the period key while holding down the

Ctrl key, the printer interprets the resulting blank space as CHR\$(27), even though the computer knows it is really CHR\$(155). Since CHR\$(27) is the ESC or "escape code" which tells the printer to interpret the following characters as function command codes, you can for instance set up the printer for emphasized double-struck double-width underlined italics by OPEN #1:"PIO" :: PRINT #1:" E G M"&CHR\$(1)&" -"&CHR\$(1)&" 4", using CTRL . in the blanks. I have been overlooking another very useful feature, the skip-over perforation. PRINT #1:" M"&CHR\$(6), again with CTRL . in the blank, causes the paper to advance to the top of the next page when there are only 6 lines left at the bottom of the page (providing that you started at the top, of course). This makes it possible to LIST "PIO" a program, or PF PIO from TI-Writer Editor, without printing right across the perforations.

Ghosts! Did you ever read data from a file, and find that you were getting data from a file that was no longer on the disk? It can happen, at least if you are reading from a RELATIVE file in the UPDATE mode. When you delete a file, only its address is actually deleted - the data remains on the disk until it is overwritten by a new file. If the new file is shorter than the old one, and you try to read beyond the end of the file, you may awaken the ghost!

Are you making use of those special characters that are available on your Gemini printer? You didn't know about them? Try this.

```

100 OPEN #1:"PIO" :: 110
PRINT #1:" (hold down the
CTRL key and type 1234567/
and then hold down the FCTN
key and type <)/0;BMJKLMOY
)". RUN . Surprised? Some
of those can be very
useful, such as the true
division sign that you get
with FCTN H. There are many
more of these that you can
access by CHR$. For a
complete list of them and
their CHR$ codes, run this -
100 OPEN #1:"PIO" :: FOR
CH=160 TO 254 :: PRINT
#1:CH;CHR$(CH);: NEXT CH ::
CLOSE #1. Unfortunately,
these can't be used out of
TI-Writer.

```

Here's a handy little routine to practice up on your typing.

```

100 CALL CLEAR
110 CALL CHAR(94,"3C4299A1A1
99423C")
120 CALL SCREEN(5)
130 CALL VCHAR(1,31,1,96)
140 CALL COLOR(1,8,16)
150 FOR SET=2 TO 12
160 CALL COLOR(SET,2,16)
170 NEXT SET
180 PRINT TAB(10);"TIGERCUB"
: :TAB(8);"TOUCH-TYPING": :T
AB(11);"TUTOR": :TAB(9);" T
igercub Software": :
190 REM by Jim Peterson
200 PRINT " Watch the screen,
not the ":" keyboard!": : "
Letters and numbers will"
210 PRINT " appear on the sc
reen grid": " in position cor
responding": " to their keybo
ard position.": : " Type the
m and they will"
220 PRINT " disappear.": : :
" Press any key"
230 CALL KEY(0,K,BT)
240 IF BT=0 THEN 230
250 CALL CLEAR
260 CALL CHAR(32,"FFB0B0B0B0
B0B0B")
270 CALL VCHAR(1,30,1,192)
280 CALL HCHAR(14,1,1,384)
290 CALL VCHAR(1,4,1,14): : C
ALL VCHAR(5,6,1,11): : CALL V
CHAR(8,7,1,6): : CALL VCHAR(1
1,8,1,3): : CALL VCHAR(8,29,1

```

```

,6)
300 CALL VCHAR(11,28,1,3)
310 CALL CHAR(48,"003A444C54
6444B8")
320 KEYS="1234567890=QWERTYU
IOP/ASDFGHJKL;":&CHR$(13)&"ZX
CVBNM,."
330 RANDOMIZE
340 K=ASC(SEB$(KEY$,INT(42#R
ND+1),1))
350 GOSUB 370
360 GOTO 420
370 X=POS(KEY$,CHR$(K),1)
380 Y=ABS(X>11)+ABS(X>22)+AB
S(X>33)+1
390 R=Y#3
400 C=((X-ABS(Y>1))*(Y-1)#11)
#2)+4#Y
410 RETURN
420 CALL HCHAR(R,C,K)
430 CALL KEY(3,K,ST)
440 IF ST=0 THEN 430
450 GOSUB 370
460 CALL GCHAR(R,C,6)
470 IF B<>32 THEN 500
480 CALL SOUND(-100,110,0,-4
,0)
490 GOTO 340
500 CALL HCHAR(R,C,32)
510 CALL SOUND(-100,1000,0,1
005,0)
520 GOTO 340

```

Here's one for the kids to have fun with. I'm sorry I lost track of who published it.

```

100 CALL INIT :: FOR J=1 TO
100 :: PRINT J :: FOR P=1000
TO 1 STEP -J :: CALL LOAD(-
31456,P): : NEXT P :: NEXT J

```

MEMORY FULL,

Jim Peterson

BACK TO BASICS

One of the greatest advances in computing is the ability to interact with a program while it is running. This ability allows the same program to process different data or branch to different sections of code at the whim of the user. Unfortunately, input/output statements frequently cause the majority of problems during a program's development. If the user must enter a string in upper-case letters (for example "RS232.BA=4800") how does the programmer ensure this? In Extended BASIC this is easily handled with the VALIDATE portion of an ACCEPT AT function. However, in BASIC, the programmer is challenged to generate the error detection/correction code. Two avenues are fairly obvious and undesirable: 1) Warn the user to enter upper-case only and if s/he doesn't: bomb out or 2) accept a string and check each character to ensure that its ASCII value falls within the range of upper-case letters. What's the simple solution?

```
100 CALL KEY(3,K,S)
110 INPUT "Your optional input string":STRING_VARIABLE$
```

By executing the CALL KEY immediately before the INPUT, the 99/4 keyboard is scanned for input. Since this keyboard doesn't recognize lower-case letters, they are locked out (as are control characters). This technique can also be used to disable the CLEAR key (FCTN 4) during INPUT. BE ADVISED! THIS ONLY DISABLES 'CLEAR' DURING THE INPUT AND NOT DURING THE ENTIRE PROGRAM!

```
100 CALL KEY(4,K,S)
110 INPUT "Try to CLEAR the program!":ATTEMPT$
```

This keyboard swaps the FUNCTION and CONTROL codes. You may still CLEAR the program while it's waiting for INPUT, but I'll let YOU find the key (I'll answer in a later issue). I wish this could disable the QUIT key as well, but I haven't had any luck there.

What about menus and the CALL KEY? What's the 'best' (my definition) way to handle that? Try using a string of possible choices and the POS function. For example, suppose you have a menu with six items, numbered one to six. Display the menu, CALL KEY, and ADD ONE TO K! Try the POS and viola! Specifically:

```
XXX (Your menu is printed here)
110 CALL KEY(0,K,S)
120 ON POS("234567",CHR$(K+1),1)+1 GOTO XXX,130,140,150,160,170,180
130 -> 180 (Menu items #'s 1 to 6)
```

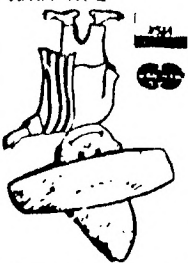
There are two things you must remember to do: 1) add one to each item in the menu, and 2) add one to K in the CHR\$ function. If no key were pressed, and you didn't add one to K, you would have a CHR\$(-1) which would bomb out. Now, since you added one to K, a "1" (ASCII 49) is now a "2" (ASCII 49+1), etc. This works just as well for alphabetic menu items ("A" becomes "B", etc). All this may seem more complicated than it needs to be, but if your program is cramped for space, this shorty will help. I haven't seen a shorter section of code that can poll, check, and branch.

MORE TIPS LATER!

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