A TI would never turn on its master

TIsHUG News Digest   ISSN 0819-1984

I N D E X

Feed Me

EDITORS COMMENTS
By Loren West

What's new on the TIsHUG front?
At the last monthly meeting there was a great murmur when Dick announced that we are able to acquire some cheap Network cards. I've read about this idea in some of the PC magazines. the idea is to have one main computer and a few slave computers. (anyway that's how I see it). Other than using them in a office situation. men (big boys) hook their systems up by cables and play network games. they spend (going by the magazine) days at a time. so is this the new thing on the entertainment arena. I've thought how I could have a main computer in the house and have another one or two setup for my kids to use independently of each other. and of course they might even play a game or two.

I'll have to wait a see how this system works in real life before I dive into the deep water.
I think Dick mentioned that we could hook up a network system at one of our monthly meetings. so come along and see what's happening.
If somebody has any ideas or thoughts on this subject please drop us a line.

In a previous article I wrote about the internet.
The internet at one of our local hotels. yes at the pub. how it works is like this. you insert $6:00 for half an hour then you can surf the net till your heart is content. the unit is just like a arcade games stand with a fixed trackball on the right hand side and a key-board to input the normal commands. They use Netscape (I think that was the name) to navigate around. BUT there was no facilities to save your work or load in letters. for whatever you would like to send around the world. nor did it have a printer attached to obtain a hard copy of any information that

you may wish to keep. In the instructions it did point out some ideas that you could use this system for, and that most of the major newspapers are on the net. (somehow spending $6:00 a half-hour to read the paper didn't seem appealing.) anyway it is there and you just need to spend $6:00 to have a look around. It saves setting up a system and a line and then finding that you don't like it.
See you at the next meeting.

END OF ARTICLE

```
        TIsHUG SOFTWARE FILE
          SEPTEMBER 1996
          By Larry Saunders

          Diskname AT184
        Used= 342  Free= 16

        TI-Artist Instances.

ANGLFISH-I  17 d 80   BIRDS-I    35 d 80
CAT-I       35 d 80   COUGAR-I   54 d 80
EAGLE-I     32 d 80   IMPALA-I   24 d 80
OTTER-I     42 d 80   SEAL-I     35 d 80
SWAN-I      35 d 80   TURTLE-I   33 d 80
```
```
          Diskname PP185
        Used= 356  Free= 2

     Page Pro Headliner Pictures.

4TH        83*I 13   FAIRE      29*I 13
FREE       59*I 13   GENEVE     29*I 13
GETWELLSN  76*I 13   INTRODUCE1 38*I 13
JOYWORLD   25*I 13   UG         17*I 13
```
```
          Diskname U186
        Used= 352  Free= 6

     Graphx Compianion disk.

CANIMATE5   3 Prog   CBORDER1    7 Prog
CBORDER2   11 Prog   CFONT35A   14 Prog
CFONT35B   10 Prog   CLIPART15   6 Prog
CLIPART16   7 Prog   CLIPART17  13 Prog
CLIPART18  14 Prog   CLIPART19   4 Prog
CLIPART20  12 Prog   CLIPART21  14 Prog
CLIPART22  10 Prog   CLIPART23  11 Prog
CLIPART24   6 Prog   CLIPART25  10 Prog
CLIPART26   7 Prog   CLIPART27   7 Prog
CMUSIC1    14 Prog   CMUSIC2    10 Prog
SBORDER3A  54 Prog   SBORDER3B  54 Prog
SMUSIC     54 Prog
```

Diskname U187
Used= 329 Free= 29

Graphx Extended BASIC program. WIll run by LOAD from
Extended Basic by LOAD or by BASIC using
GRAPHX. Can use Keyboard keys or Joysticks.
NOTE...Keyboard will not work with items marked with
`*' and no help menu if marked with `#'.
This version is Extended Basic. Next month will be
Mini-Memory version which has a bit more features to
it. I have a 48 page book on Graphx and it can be
photo copy if any one wants a copy.

Function keys

CTRL 1 = Slower	: Move Cursor slower
CTRL 2 = Faster	: Move Cursor faster
CTRL 3 = Draw	: Pen UP or Pen Down
CTRL 4 = Erase	: Turn erase On or Off
* CTRL 5 = NO Help	: Turn Menu On or Off
*#CTRL 6 = Zoom	: On or Off.
* CTRL 7 = Colours	: Options Menu.
* CTRL 8 = Lines	: Rubber Banding method.
* CTRL 9 = Circles	: Create circles and ovals.
* CTRL 0 = Copy	: Copy or Move
* CTRL = = Menu	: Repaint with new colour
"	: Read or Save to disk
"	: Clear screen options
"	: Clipboard options
"	: Printer options
"	: Typewriter mode. Enter to escape
"	: Fill a shape
"	: End Session
"	: Exit Menu

CALPHA1	10*Prog	CALPHA2	11*Prog
CALPHA3	13*Prog	CALPHA4	10*Prog
CALPHA5	10*Prog	CFROG	14*Prog
CNUMERIC	8*Prog	CWALKMAN	12*Prog
GRAPHX	5*D 80	GRAPHX1	49*Prog
GRAPHX2	49*Prog	LOAD	5*Prog
MACHINE	7*Prog	READIN	13*d 80
SCREEN	54*Prog	SCREEO	54*Prog
UTIL1	3*Prog		

END OF ARTICLE
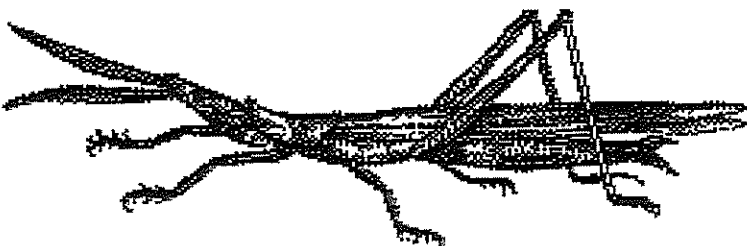
TUTORIAL
Using the Hewlett-Packard printer command language with a TI
By BOB GROSSART

Introduction. Now that I have your attention, we can look
into the world of the Hewlett-Packard (HP) Printer
Command Language, known as HP PCL I became
interested in the HP PCL while trying to adapt TI99/4A
programs to print with my recently acquired HP DeskJet
310 printer. Initially, ASCII files printed QK(sort of). But
it became obvious that HP was far from being Epson
compatible. I needed to learn what I could about my HP
printer if I wanted it to be useful with my TI. From HP, I
ordered a Technical Reference Manual for my HP310.
This 224-page manual contained very detailed
information regarding printer commands and use of the
PCL, in my case PCL-3. It was well worth the $5.25 plus
tax, sent FEX. Listed at the end of this article are this
manual are two other books that have useful information
on both the DeskJet and LaserJet HP printers.

HP PCL Architecture. The HP PCL. provides application
programs a way to control HP device features using a
common printer language and architecture. PCL is
essentially a collection of commands, known as control
and escape sequence codes, to control printer operations.
HP categorizes general types of device functions into
levels. Several levels of PCL have been implemented into
different HP devices, but they are all backward
compatible. PCL4 incorporates all of PCL1, 2 and 3.
Also, all levels of PCL ignore PCL commands they do not
support. The levels are:

PCL-1::Print and Space PCL. Supports standard codes
(e.g. CR, LP, underline, basic graphics)

PCP-2: EDP/Transaction PCL. For printers designed far
transition processing. Adds margin, line spacing, page
length, pitch, others.

PCL-3: Office Word Processing PCL For printers
designed for word processing. Adds commands to support
LaserJet print-

PCI-4: Page Formatting PCL. Came into use with the
LaserJet
Plus printers.

PCL-5: Enhanced but more complex PCL to support the
LazerJet 111 family of printers The HP PCL architechue
consists of two major elements: PCL Kemel and
Extensions to the Kernel. Extensions provide features that
are device-specific (e.g., print color, envelope printing).
The Kernel consists of the following feature youys:
Device Control, Movement, Page Presentation, Fonts and

Rendering(or graphics). My Technical Reference Guide describes each if these features in detail. PCL Codes. There are two general types of PCL commands: Control and Escape Sequences (sounds familiar so far).

Control Codes. Beginning with CTRL (IBM) or CTRL-U (TI), a single character (ASCII table in range of 0 through 32 decimal) that initiates a printer function (e.g., Carriage Return. Line Feed).The codes for my printer are listed in Table 111, which correspond to the special character mode commands in the TIW manual on page 146. BASIC uses the CHR$ function. e.g, CHR$(12) results in Form Feed. Escape Sequences. Two or more character with the first character always ASCII 27 decimal or 1B hexadecimal (identified as E_c).

Two Character Escape Sequence. E_c is followed by any character from ASCII table within range of 48-126 decimal, e.g., E_cE resets the printer Parameterized Escape Sequence. The escape sequence has the following characteristics:

```
Ec      ( s      05      H
1       1 1      1 ->     1--> Termination Character
1       1 1      1------------ > Value Field
1       1 1------------------> Group Character
1          1------------------> Paramaterization
1                            Character'
1 ------- > Escape Character
```

Paramaterization Char.: Within range of 33 7 decimal Indicates that this escape sequence is Paramaterized.
Group Char.: Within rage of 96-126 decimal ('through/). Specifies group type. Value Field: Within range of 48-57 decimal (0 through 9). May be preceded by+ or - and contain digits after a decimal point. Range of -32767 to 32767. A value of 0 if not specified and is required.
Termination Char.: Within range of 64-94 decimal (through^). Specifies parameter for value held. Terminates escape sequence when a capital letter.
Binary Data: Not required for example code above. but is eight-bit data (e.g., graphics). The Value Field specifies the number of bytes of binary data to immediately follow escape sequence. In accordance with the PCL-3 command list, the example escape sequence above will produce a font pitch selection of five characters per inch. This assumes the printer has the built-in font with this characteristic/ My printer has 37 different attribute categories controlled by escape codes. Combined Escape Sequences: More than one escape sequence may be combined into one escape sequence using the following rules:
1. The first two characters following the "E_c " must be the same in all commands combined.
2. All alphabetic characters within the combined command are lowercase, except the final termination character.

3. Commands are executed in order, left to right. For example, the combined sequence:
E_c(s0p10h6vOs3b3T
is Font No. 56 on my printer which is specified by the attributes of Fixed Spacing, Pitch 10, Point Size 6. Upright Style, Bold Weight and Courier Typeface. This is equivalent to the following individual escape sequences:

E_c(sOP	Fixed Spacing
E_c(s10H	Pitch 10
E_c(s6V	Point Size 6
E_c (sOS	Upright
E_c(s3B	Bold Weight
E_c(s3T	Courier

HP cautions that the escape sequence should not have any spaces. My manual gives not only the alphanumeric codes, but also the corresponding decimal and hexadecimal equivalents. Table 1 contains some of the more common word processing commands. A full list is in the HP Technical Reference Manual, including graphics, which I have yet to explore. Table II is an index of Escape Sequence feature groups. Application to TI99/4A: Having a list of PCL codes. the next step was to incorporate them into TI programs. I have tried several combinations of decimal, hex. CHR$ and CTRL-U commands. So far my success has been limited. Word Processing by TIW/FW:
a The CTRL-U trick works as follows:
1. Bold print is desired
2. PCL-3 command E_c (s3B
3. Embed in text where required. the following keyboard sequence(no spaces):
CTRL U FUNC-R CTRL-U (s3B
4. To return to normal stroke weight embed the following code:
CTRL-U FUNC-R CTRL-U (sOB
(Remember all commands remain in effect until canceled by another command, send printer reset or cycle printer power of/on.)
b. Transliterate Commands work as usual with the formatter.
.TL 35:27,40,115,53,72
.TL 33:27,40,115,49,48,72
#TEST HP PRINTER!
would print at five characters per inch. The equivalent PCL-3 commands are:
E_c(sSH replacing # and E_c (slOH replacing !
BASIC Program. The following program was used to test printer with TI99/4A, with result shown.
10 OPEN 1: "PIO"
20 PRINT#1:CHR$(27)& "(sSH"
30 PRINT#1: "THIS IS A TEST
":"OF THE HP PRINTER
40 PRINT#1:CHR$(27)& "(s10H"
50 PRINT#1: "TH1S COMPLETES
1st HP PRINTER TEST"

60 PRINT#1: CHR$(27)&"(s511"
"Test HP again"
70 PRINT#1:CHR$(27)& "(s10H"
& "This completes test"
80 CLOSE#1

THIS IS A TEST
OF THE HP PRINTER

THIS COMPLETES 1st HP
PRINTER TEST
TEST HP AGAIN
THIS COMPLETES TEST

Summary: Although I have not addressed graphics modes or extended programming methods (my lack of understanding). I hope this information may be of some interest if you acquire an HP printer for use with your TI99/4A.

References
1. Hewlett-Packard Company. "HP DeskJet 310 Printer, Technical Reference Guide." Manual Part Number C2621-90172.
2. Crane, Mark W., Pierce, Joseph R., with Holzgang, Danial A., "LaserJet Companion," Microsoft Press.
3. Cummings, Steve. "DeskJet Unlimited." Peachpit Press Inc.

Re edited by Loren West for TIsHUG
With thanks to MICROpendium

Table I. HP PCL-3 ESCAPE SEQUENCES

Code Name	Printer Feature	Command	Decimal Equivalent
Reset		EcE	027 069
Self Test		Ecz	027 122
Point Size	# 1/72 inch	Ec(s#V	027 040 115 #..# 086
Print Pitch	Char./inch	Ec(s#H	027 040 115 #..# 072
Stroke Weight	Normal	Ec(s0B	027 040 115 048 066
" "	Bold	Ec(s3B	027 040 115 051 066
Style	Upright	Ec(s0S	027 040 115 048 083
"	Italic	Ec(s1S	027 040 115 049 083
Spacing	Proportional	Ec(s1P	027 040 115 049 080
"	Fixed	Ec(s0P	027 040 115 048 080
Print Quality	Letter	Ec(s2Q	027 040 115 050 081
" "	Draft	Ec(s1Q	027 040 115 049 081
Underline	Single Fixed*	Ec&d1D	027 038 100 049 086
	*other modes available		
Underline Off		E_c&d@	027 038 100 064
Line Spacing	Lines/Inch*	E_c&$\mathscr{L}$#D	027 038 108 #..# 068

*E_c&$\mathscr{L}$8D is 8 lines per inch. Also, the $\mathscr{L}$ is a *lower case* "l" or "ell" but this shows up better. The HP manual uses a lower case *script* "ell," also to distinguish from a "one"

Vertical Pos.	Decipoints*	E_c&a#V	027 038 097 #..# 086

*Increments of 1/720 inch. A +240 is one-third inch down and a -240 is one-third inch up, for value of #.

TABLE II. ESCAPE SEQUENCE INDEX

(Spaces shown for clarity)

Escape Sequence	Description
E_c & $\mathscr{L}$# A	Paper Size
E_c & $\mathscr{L}$# C	Vertical Motion Index
E_c & $\mathscr{L}$# D	Line Spacing
E_c & $\mathscr{L}$# E	Top Margin
E_c & $\mathscr{L}$# F	Text Length
E_c & $\mathscr{L}$# H	Media Source
E_c & $\mathscr{L}$# L	Perforation Skip Mode
E_c & $\mathscr{L}$# O	Logical Page Orientation
E_c & $\mathscr{L}$# P	Page Length
E_c & a # C	Horizontal Position, Columns
E_c & a # H	Horizontal Position, Decipoints
E_c & a # L	Left Margin
E_c & a # M	Right Margin
E_c & a # R	Vertical Position, Rows
E_c & a # V	Vertical Position, Decipoints
E_c & b # T	Dry Time
E_c & d # D	Automatic Underlining ON
E_c & d @	Automatic Underlining OFF

TABLE III. HP PCL-3 CONTROL CODES

(CTRL-U Special Character Mode on TI99/4A)

Code Name	TI Key Press	IBM Key Press	Decimal
Backspace	SHIFT H	CTRL H	08
Horizontal Tab	SHIFT I	CTRL I	09
Line Feed	SHIFT J	CTRL J	10
Form Feed	SHIFT L	CTRL L	12
Carriage Return	SHIFT M	CTRL M	13
Shift Out	SHIFT N	CTRL N	14
Shift In	SHIFT O	CTRL O	15
Escape	FCTN R	CTRL R	27
Space			32

E_c & k # G..Line Termination

E_c & k # H................................... Horizontal Motion Index

E_c & k # W...................................Text Printing Mode

E_c & p # X....................................Transparent Print Mode

E_c & s # C....................................End-of-line-Wrap

E_c ([ID] ....Character Set, Primary

E_c (s # B ....Font Stroke Weight, Primary

E_c (s # H...................................Font Pitch, Primary

E_c (s # P ....Font Spacing, Primary

E_c (s # Q...................................Font Quality, Primary

E_c (s # S ....Font Style, Primary

E_c (s # T ....Font Typeface, Primary

E_c (s b # V ....Font Height, Primary

E_c) [ID] ....Character Set, Secondary

E_c) s # B ....Font Stroke Weight, Secondary

E_c) s # H...................................Font Pitch, Secondary

E_c) s # P ....Font Spacing, Secondary

E_c) s # Q...................................Font Quality, Secondary

E_c) s # S ....Font Style, Secondary

E_c) s # T ....Font Typeface, Secondary

E_c) s b # V ....Font Height, Secondary

E_c * b # M ....Raster Graphics Compressor

E_c * b # S..................................Seed Row Source

E_c * b # V..................................Transfer Graphics Plane 1

E_c * b # W.................................Transfer Graphics Row 1

E_c * b # Y..................................Relative Vertical Pixel Movement

E_c * o # D..................................Raster Graphics Depletion

E_c * o # Q..................................Raster Graphics Shingling

E_c * p # X..................................Horizontal Position, Dots

E_c * P # Y..................................Vertical Position, Dots

E_c * r # A..................................Start Raster Graphics

E_c * r # Q..................................Raster Graphics Quality

E_c * r # S..................................Raster Graphics Width

E_c * r # U ....Number of Graphics Planes

E_c * r b C..................................End Raster Graphics

E_c * t # R   Raster Graphics Resolution

E_c 9 ....Clear Side Margins

E_c E..Reset Printer

E_c Y..Display Functions Mode ON

E_c Z..Display Functions Mode OFF

E_c z ....Printer Self Test

[END OF ARTICLE]

THINGS THAT HAVE COME AND GONE AND SOME THAT NEVER WERE

Article by **Bill Gaskill**   May 1996

This month we'll continue our discussion/tutorial on the avarone Data Base Management System and how you can get the most out of it for your money. Last time we covered the "Quick-Start" section. This month we'll get into the meat of the program's features and their uses.

INTRODUCTION:
Navarone Industries. now a producer of Amiga and Atari ST software, was first an early supplier of products for the TI-99/4A and Commodore 64 lines of home computers. Their list of 99/4A products included:

Astrology-Horoscope Maker
Cartridge Expander (the Widget)
Console Writer   Disk Fixer
Grom Buster   Homework Helper
Music Editor   Speed Reading
Sprite Editor
Super Bugger (assembly debugger)
Super Duper (sort utility)
and of course the Data Base Management System (DBMS).

The DBMS, which was introduced in November 1984. is as the Navarone advertisement stated: "A customized transaction. filing and reporting system for the small business." The system consists of a series of programs on disk that run under a proprietary Navarone module that must be inserted in the 4A's cartridge port for the system to work. A TI-99/4A console, 32K memory and a disk drive are also required. No matter what type of hardware configuration you have, DBMS must have access to DSK1 to load all program modules from the system disk. You may take advantage of the DSK1 emulator available with the Myarc Hard and Floppy Disk Controller an you may also use your Horizon Ram Disk for program access if you set it to be recognized as DSK1.

SPECIFICATIONS:

Maximum records per file	HARD DISK -32,000
	SS/SD floppy-35S
	DS/SD floppy-718
	DS/DD floppy-1438
Maximum fields per record	25

Maximum record size	255 bytes
Sort keys	6
Math functions	numeric field totaling in Report module.
Subfile selection YES,	by = and <> operators.
Single disk sort file size	HARD DISK -32,000
	SS/SD floppy-163
	DS/SD floppy-343
	DS/DD floppy-705

FILE TYPES:

The Navarone system creates three different types of files in support of any data base that you design;

FILE TYPE	FILE FORMAT
o Setup file	PROGRAM IMAGE
o Data/sort file	DISPLAY/FIXED
o Report file	DISPLAY/VARIABLE

Setup files save the information that you define when you create the screen layout for your data file's record format. It includes the layout, the key field information, the name of the data file the input (SETUP) screen will accept data for and any help window data that is included for each field. It is saved on disk in PROGRAM image format for fast loading into memory when called. All original data files and all sorted files are saved in FIXED format to allow relative access to data. The length of the file is decided by you when the setup screen is designed. The file's length will be the cumulative total of all data input blocks contained in the record structure. Data input blocks are the red bars that appear on your screen when you press Fctn 2 to design an input block length. More detail on data input blocks is included in the FILE SETUP section.

Report files, or more correctly, report definition files, are saved in VARIABLE format for optimum use of disk space. These files contain the information that tell DBMS all about how you want a report laid out and what type of printer codes you have included for special printing requirements. You may design any number of reports for the same data file as long as you save each report file under a different name. When DBMS sorts a data file it leaves the original file intact, sorts by the key field(s) you specify for the sort and then it creates a second file with the identical record structure as the original one. There are advantages and some disadvantages to this type -of sort method. The most notable disadvantage comes when you have only one SS/SD disk drive.

Sorted files cannot be used immediately after they have been created by the DBM SORT program. You must first enter the DBM SETUP program, load the SETUP file that contains the original screen layout and other information about the source file that the sorted file came from. Press Fctn 9 (BACK) and then press Y for auto-sequencing. Then type in another SETUP file name and then the sorted file name to save the information currently in memory for the SORTED file. You will end up with a new SETUP file for the SORTED file that will allow the new data to be used in any of the DBMS programs.

FILE SETUP:

Insert the DBMS module into the cartridge port and then turn your system on the way that you normally would. Insert the DBMS program disk into DSK1 and press any key. A menu of options appears that lists TI Basic and then four DBMS options;

1 FOR TI BASIC	2 FOR DBN ENTRY
3 FOR DBM SETUP	4 FOR DBM REPORTS
5 FOR DBN SORTS	

Select 3 for DBM SETUP. The disk drive will light up and a copyright screen will appear. Press <ENTER>. You will be prompted for the name of the SETUP file. Ignore this and press <ENTER> again. You would only type in a DSK# .FILENAME at this point if you had an existing SETUP file designed that you wished to load and then alter in some way.

After you press <ENTER> at the SETUP file prompt the cursor appears in the middle of the top line on a blank, light blue screen with a cyan border. To begin defining a data file press <ENTER> once again and the cursor will drop down to the left edge of the next screen line.

The SETUP program that you are now in is a full-screen text type editor of 32 columns by 22 rows. You may move the cursor around on the screen (with the Fctn D,E,S and X keys and the space bar) to position the field names and data input blocks for each field anywhere you wish. Only one input screen is supported but it may contain up to 25 fields that have a maximum combined length (size) of 255 bytes. Field names are typed in as you would type text on the screen in a word processor. Data input blocks for each field name are inserted by moving the cursor to the point where the input block is to begin. Then, you must press Fctn 2 to insert an input field character space. So if you want to have an input block that is ten characters long, press Fctn 2 ten times or hold the Fctn 2 keys down until the auto-repeat feature displays a red-line on the screen that is ten characters long.

The example data base that we will design, which is publications reference named INDEX, has the following fields;

Fieldname	Length
SUBJECT	30
TYPE	22
SOURCE1	22
DATE	05
PAGE	03
SOURCE2	22
DATE	05
PAGE	03
SOURCE3	22
DATE	05
PAGE	03
SOURCE4	22
DATE	05
PAGE	03

See the QUICK START section for instructions on how to design the screen layout for this file. Remember that the Fctn 1 key, when placed at the beginning of a data input block, will delete characters roe the block, and the Fctn 2 key is used to insert spaces. Field names typed in must be erased with the spacebar.

Every record structure designed in a DBMS file must have at least one key field so that data can be accessed through the index file that the Navarone system creates for a data base. You may have as many as six key fields for a file, but the data in any key field must be unique, meaning that it can only occur once in the file. The sample data base being created in this tutorial, which uses SUBJECT as the key field, will have only one entry for each SUBJECT in the data base.

To design a key field move the cursor to the first position in the data input block (the red bar area) for the field to be designated as a key field. In this example, move the cursor to the first red space for the SUBJECT field.

Press Fctn 6 (PROC'D). The screen will clear and display the field information screen. Within the outlined box on the upper half of the screen you will note that the position number displayed is 001 and the field length is listed as 30. Press <ENTER> until the cursor moves to the "Is this a key field? Y/N" prompt. Type in an upper case Y and then press <ENTER>. Press <ENTER> past the "Is this a numeric field?" prompt and the cursor moves to a dialog box at the base of the screen. This is where you may type in any HELP messages you want included for a particular field. These are very handy little windows that appear in the DBM ENTRY program when Fctn 7 (AID) is pressed.

They are optional though, so you do not have to type anything in.

. Press Fctn 6 (PROC'D) when you are done. The record layout screen is redisplayed. Insert the blank data disk into DSK1 that was formatted earlier. Next press Fctn 9 (BACK) and you will be asked if you wish to use the auto-sequence feature. Press Y. This will cause the program to look at your record's structure and automatically determine the length of each field so that DBMS will know where one field ends and the next one begins. You could have done the same thing yourself in the field information screen where key fields and help windows are designed, but there really is no need to when the program will do it for you. The auto-sequencing is much quicker and less prone to error than doing it manually.

After pressing Y type in DSK1. INDEX as the data file name and then press <ENTER>. Lastly, type in DSK1. INDEXSETUP as the SETUP file name for the INDEX data base. Once that is done, and the <ENTER> key is pressed, the disk drive lights up and your new data base structure is saved to disk. When the disk write is complete the record layout screen appears. Press Fctn (QUIT) and then Y to con ire that you do want to exit the SETUP program.

KEY FIELDS:
You may wonder why the sample data base record structure contains four SOURCE: fields when one would normally seem to do the job. Normally, you would be correct. The problem arises out of the DBMS requirement that each record have a "unique" key field. This means that only one record with the same entry in the key field contents can exist in the same file. This works out okay if you are doing inventories or customer lists where you can assign a unique number or some other designator to each record. However, in the publications reference type file, there are bound to be multiple references to the same topic. For instance, the COMPANION word processor has been reviewed seven times in various 99/4A publications. With a DBMS file structure containing only one SOURCE: field, you would only be able to reference COMPANION once in the file. The only alternative would be to list each entry in the SUBJECT: field as COMPANION1, COMPANION2 etcetera, which is neither accurate nor practical, since you would never know how many entries existed in the file. With the file structured the way it is, you can reference any topic up to four times and have all of the references appear on a single screen.

DATA ENTRY:

With your data disk in DSK1 and the color bar screen showing on the monitor, press any key and then press 2 for DBM ENTRY. The Navarone copyright screen appears. Press <ENTER>. At the SETUP file prompt type in DSK1.INDEXSETUP and then press <ENTER> again. The disk drive will light up and then a message will be displayed on the screen that tells you the;

FILE DOES NOT EXIST

What doesn't exist (yet) is the data file name that you gave your data base (INDEX) during the SETUP process. It is not the SETUP file that does not exist. When asked if you wish to create the file, press Y and the INDEX data base file will be opened. Once that occurs a;

CROSS REFERENCING

message is displayed momentarily, while the program indexes the existing data base. The data access/edit/entry screen appears. This screen is a black bordered screen with a light blue background, white text, a red key field input block and off-blue non-key field data input blocks.

To enter data press Fctn 5 (BEGIN). The black border disappears and a NEW RECORD message is displayed at the top of the screen. Your file's record layout is also displayed and the cursor appears in space number one of the input block for the SUBJECT field. Type in an entry for this field and then press <ENTER>;The cursor will then move to the TYPE field. Continue to enter data for each field as applicable until the record contains the desired information. When all data entry for the record is complete press Fctn 6 (PROC'D) to write the record to disk. The black bordered screen will appear again. Enter another four or five records in the sample data base now, and then come back to the next paragraph when you are done. I suggest that the records entered are done so out of' alphabetical order (by SUBJECT) so that you can see the effect of a SORT that will be conducted later. Sample data may be keyed in from any book, magazine or other publication for practice purposes.

DATA ACCESS:

Once you have data entered into the file it may be accessed by the key field. This is done by typing search data into the SUBJECT field input block (the red bar on the black bordered screen) and then pressing <ENTER> or Fctn 6 (PROC'D). The data that you key in must be an exact match to one of the entries in the index file in memory or a "NO SUCH KEY" error message is displayed. If you don't know the exact wording of a record you may press Fctn 8 (REDO) to access records sequentially. Once the first record appears on screen and you wish to view the next one, press Fctn 9 (BACK) and then Fctn 8 (REDO) again. The next record in the file will appear.

DATA EDITING:

Any record accessed via the index file or the sequential access method may be edited by simply typing over the existing data with whatever new data you want to have in the offending record. When you exit the file the changes are automatically saved to disk when the file is closed.

DELETING RECORDS:

Any record accessed via the index file or the sequential access method may be deleted by simply pressing Fctn 4 (CLEAR) while the record is displayed on the screen.

SORTING DATA:

Insert the DBMS program disk into drive 1 and then press any key from the color bar screen. Press 5 to access DBM SORT. When the SORT program is loaded insert the data file disk into drive 1. At the first prompt (ENTER SOURCE FILE) type in DSK1.INDEX and then press <ENTER>. Then type in DSK1.INDEXSORT to name the output file that is created by the sort routine. Remember that an entirely new file is created by the sort, so if you wish to sort a data base that is 100 records in size, you must have 100 sectors free on the data disk to accept the new file. If you have multiple drives or a hard disk then you would simply path the output file to the desired disk but would still have to have the same number of free sectors available on the output disk.

Next, just type in 1 for the position of the SORT SELECTION FIELD. Press <ENTER>. When the prompt "STRING" scrolls up press <ENTER> again. Next, you are prompted to press E for EQUALS for N for NOT-EQUALS. Press <ENTER> to ignore the prompt. Enter 1 at the SORT KEY: 1 prompt. The first 1 that you entered told DBMS to sort the file by SUBJECT, which is the first (number 1) field in the file. The second number 1 tells it the position of the SUBJECT field in the 255 character string that makes up each record. Press <ENTER> again and then type in 30 at the LENGTH prompt. Press <ENTER> and then type in A for an Ascending sort at the DIRECTION prompt. Press <ENTER> and then <ENTER> again when prompted for the SORT KEY: 2 input. The sort process will then begin. When the sort is completed press Fctn = to quit.

Sorted files must be run through the SETUP program before they can be read by any of the other modules since they do not have a SETUP file of their own. To create the SETUP file, load the SETUP program from the DBMS system disk and then load the SETUP file for the original data base that the sorted file came from (INDEXSETUP in our sample data base). The program will then read the INDEXSETUP file and display the layout screen. Press Fctn 9 (BACK) then press Y for auto-sequencing. Name the NEW setup file INDEXS1. Name the data file DSK1.INDEXSORT. Press <ENTER> and the process is complete. Now, when you wish to use the sorted file for

ENTRY or REPORTS etcetera, you simply type in DSK1.
INDEXS1 to load the sorted file.
End.
Thank you Mid South 99

ⅡEⓃD ⓄF ⒶRTIⒸLEⅡ

SCSI AND OTHER FOUR LETTER WORDS (WELL, ALMOST!)

BY JAMES D. LANMAN

There are several standards for Hard Drives (HD's):
SCSI, MFM, IDE, RLL, etc. Of these standards. SCSI,
MFM, and IDE are the ones which TI'ers are most
interested in using. In the TI community, there is room
for all of them.
However, most of us will be hard pressed to afford a
controller card and HD for our system. Each standard
has its advantages and disadvantages which this article
will address. TI'ers have a difficult choice in picking a
standard.
The following information should help.

SCSI (Small Computer System Interface — pronounced
"skuzzy") is the latest standard to come to the TI. And
there is nothing small about SCSI since it is used in many
systems ranging from supercomputers to TI 99/4a's. The
SCSI Host Adapter card is available for $170 (plus S & H
and applicable sales tax) from Western Horizon
Technologies and Bud Mills Services. It can use any
combination of up to 7 SCSI devices. SCSI isn't limited
to just HD's. The SCSI card will be able to use CD-ROM
drives in the near future once a software driver becomes
available. With additional software drivers, it may be
possible to use page scanners, magneto-optical drives.
and laser printers. Only time, money, and interest from
TI'ers will determine if we see software drivers for these
other devices. As for SCSI HD's, they can be found new,
used, or refurbished. 20, 40, and 80 MB size HD's in 5
1/4" or 3 1/2" form factors can purchased at a relatively
low cost ($50-$200). They may be a little hard to find, so
check out the latest COMPUTER SHOPPER magazine
for where-to-buy and pricing information. COMPUTER
SHOPPER can be purchased at most large book stores
and computer retailers.

Floppy drive support can be added to the SCSI card by
adding the FC-1 card from WHT & BMS for $100. The
FC-1 card can ONLY be used with the SCSI card.
It supports 360K, 1.44MB, & 2.88MB Floppy Drives
(FD's). This combination of SCSI HD and standard FD
support makes SCSI the future of TI!

MFM (Modified Frequency Modulation) is the standard
utilized by conventional FD's and older HD's. And there
is an extension of this standard known as RLL (Run
Length Limited) which squeezes about 50% more data on
the disk. While it is possible to use some RLL drives as
an MFM drive, you cannot reliably use an MFM drive as
an RLL drive. MFM is an older standard which is now
an orphan just like the TI. HD's can be found used,
refurbished, or (in rare cases) new at relatively low cost
($50-200) in 20, 40, and 80 MB sizes in either 5 1/4" or 3
1/2" form factor. There is still life left in this standard.
The HFDC card originally from MYARC may in the near
future be re-issued by CECURE ELECTRONICS. They
also offer repairs and upgrades of MYARC products at a
reasonable cost. If you have an older HFDC card, you
should check to see if you have a 32K SRAM, H11
EPROM, and 9216B chip. If you only have an 8K SRAM
and 9216 chip, get them replaced. Check with CECURE
ELECTRONICS on upgrading your HFDC. A new
EPROM, probably H13 or H14, which fixes most of the
problems with the HFDC and will add 1.44 FD support.
It should be available in the near future. A new disk
manager, UNI-MANAGER, will provide 1.44 MB FD
and back-up tape drive support. It is being developed by
Mike Maksimik and may be available from CECURE
sometime next year. If you already have an HFDC or are
planning on getting one — there is light at the end of the
tunnel!

Finally, we come to IDE (Integrated Drive Electronics).
A very popular standard in the PC community. Drives
are easy to find and relatively inexpensive. If all you
want is to add a HD yo your TI — this would be a great
way to go. Unfortunately, an IDE controller only exists
as a prototype.
And it is unlikely that it will ever go into production. An
IDE controller card would use conventional FD's just like
the HFDC does using a DMA (Direct Memory Access)
scheme. IDE, for now, is just a dream for TI'ers.
Whichever standard you choose, I hope this article will
make that choice easier. We have a dedicated core of
TI'ers working on improving the hardware and software
that we can use. But it takes time, money, and your
interest in their work to make it happen. We, TI'ers, need
more programmers. Get involved, learn Assembly or C.
Start writing programs you want to see! Don't be afraid
to participate. The best is yet to come!
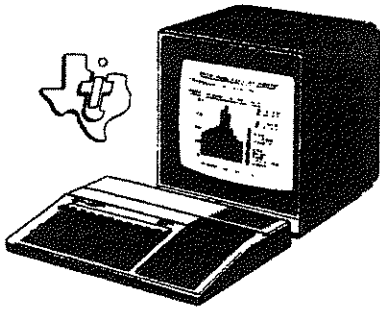
ⅡEⓃD ⓄF ⒶRTIⒸLEⅡ

JUST A ONE LINER (ED)

What did the cannibal say when he found the hunter
asleep?
"Ah! Breakfast in bed."

WANTED
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A (R.G.B) Interface, to hook a TI. up to a WANG colour monitor, or just the printed circuit board would do.

So if you have any of the above please give LEN a ring on (02) 96444241

MAC TIPS

Retyped
By Loren West

Q. Is there a quick way to close open folders on a MAC?

A. After working with files for just a few minutes on a Mac, you inevitably leave windows open all around your screen. Here's a fast way to clean up messy windows: instead of clicking on every close box on every title bar, Option-click on one open window's close box (that is, hold down the Option key and click on an open window's close box).Presto, Like magic, you have a clean desktop

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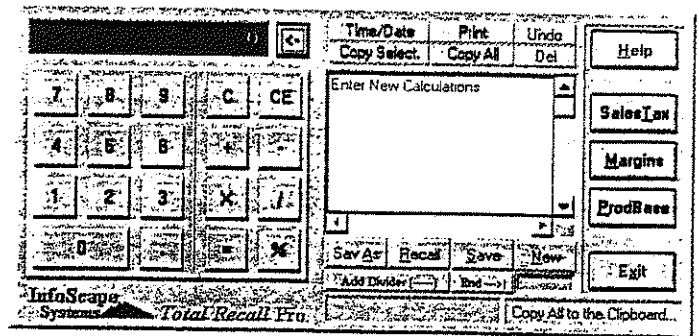
TOTAL RECALL-PRO

Retyped by Loren West
A top value shareware program
This program contains a whole swag of features which allow you to save your calculations to a file, print them, copy them to the clipboard, and add notes to them.
You can do everything you'd expect with a full featured business calculator, calculate sales tax and percentages, calculates profit margins, and more. The program includes a product database which lets you track your product lines with categories such as Product Code, Buy Price, Sell Price, Mark-Up margins, Sales Tax Amount and Quantity in Stock.
If you would like a copy of this Shareware program please get in touch with me at home or at the meetings.
PS. Please bring a disk.

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2 Consoles, one with 32K memory in built

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Software: Extended Basic, Disk Manager,
　　　　Report Writer, Report Generator
　　　　Educational Games, TI Base,
　　　　PR Base, TI Multiplan, TI Count

Books: A number of "how to" books for
　　　　the TI99/4A and many TNDs.

Plus other bits and pieces, all working.

Price: $300 for the lot

Contact: Keith Finney 043 58 8450

HARNESSING

THE POWER OF SPEECH

by Craig Dunn

The TI Speech Synthesizer is an amazing little device. It was a breakthrough for the lower end (priced) computers. Unfortunately, many 99/4A owners still do not know how to access speech along with its little features. Sure, a lot of games use speech to add interest and excitement, but the applications of speech goes far beyond games.

One of the major features of the speech synthesizer is its ability to let you ad speech to your programs. There are several ways to do this, including TI's Terminal Emulator II (hereinafter called TEII), Extended Basic, and through the use of Assembly Language routines. Extended Basic provides a rather limited vocabularly, unless you are using one of the recent utilities that give you unlimited speech in Extended Basic, but that is another story. TEII allows for unlimited speech directly from Basic. This built-in text-to-speech capability of TEII will be the focus of this article.

First, plug in the TEII command module, turn on the computer, and select TI Basic. Now type and run the following program:

```
100 OPEN#1:"SPEECH, OUTPUT"
110 INPUT A$
120 PRINT #1:A$
130 GOTO 110
```

If you get an error, make sure you have the Speech Synthesizer connected properly to the side port. Now we have a very simple text-to-speech editor. Line 100 contains the OPEN command needed to access TEII speech capabilities. Line 120 sends the text strings that you type in to the text-to-speech interpreter, which then sends the information to the synthesizer. Experiment with this awhile by typing in phrases, followed by an <ENTER>.

In the above example you were in the default speech mode. This means that no commands have been sent to alter the voice. We can change the voice easily using the "//" command. The proper format is:

// pitch slope

e.g. //34 118

The pitch is a number between 0 and 63. A zero causes the speech synthesizer to whisper phrases. Pitches from 1 to 63 range from the highest pitched [1] to the lowest pitch [63]. For the best sound, figure the SLOPE using the following formula:

$$SLOPE = 32 \times (PITCH/10)$$

Round this result to the nearest whole number. Now, when you enter the command along with these two numbers, it will appear that nothing has happened. But type in a simple phrase and press <ENTER>. You will notice the change in voice. For example, st the prompt in our simple little speech editor, type "//55 176" and press <ENTER>. Be sure to include a space between the numbers. Nothing happened, right? Well, now type something in and press <ENTER>. See how the voice changed? It becomes deeper. Now try "//0 0" and press <ENTER>. Again type in a short phrase. Another voice tone! Experiment with these and other PITCH/SLOPE combinations to get the feel of working with these.

Before we wrap up this tutorial, we will take a look at the INFLECTION symbols. The symbols are " " (caret), " " (underline), and ">" (greater than). The " " when placed in front of a word, indicates a primary stress point to the test-to-speech interpreter. Only one " " may be sued per string. The " " is used to indicate a secondary stress point and may be used without limit throughout the string. The ">" will shift the stress points within the word. Experiment with all of these to make words sound better and more human like. Remember, all inflection symbols must precede the word they are to affect.

One final note- remember that the test-to-speech interpreter is not perfect. Sometimes you might have to alter a word's spelling drastically to make it sound right.

END OF ARTICLE
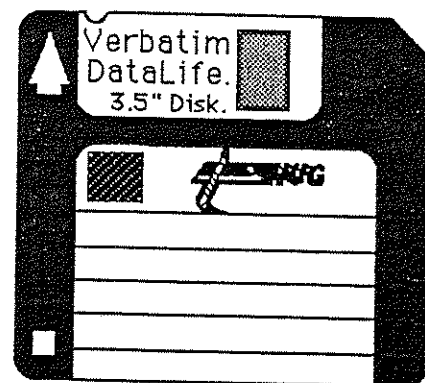
Power Supply Replacement!!!

The original "linear" power supplies provided by Texas Instruments for our P.E. Boxes have been faithful and obedient (if at times mischievous) servants for many years. It is time to begin to replace them. In the past year I have replaced three of them in various systems. The most drastic case was the one involving W.~Leonard Taffs (pull up a chair. Holmes. while I fill you in with the details).

Leonard was having troubles with his disk drives. He had updated to two DSDD drives and his system began to act peculiar. It would access and "read" his drives at random. It would do fine when he first turned the system on but after he had worked for some time it would occasionally not "read" or "write" to his drives correctly. Now, for me. this would be the normal state of affairs but it seemed to perturb Leonard to lose two hours of work. The trouble turned out to be a faulty power supply. Before Jack Mathis and I managed to pin this problem down. the low power it was producing caused damage to his 32K memory card. RS-232 card. and a Corcomp Disk Controller. We replaced his original T.I. power supply and the problems went away.

"Matt" Matthew's had a power supply go bad in one of his boxes and we replaced it with another "linear" power supply.

Jack had a power supply go bad and he replaced it with a "switching" style "baby IBM" power supply. He now has. resident in his box. a 40 meg. hard drive. a 5 1/4" floppy drive. and a 3 1/2" floppy drive. I began to have "read/write" errors with my computer (or at least more than normal for me) and attached a voltmeter to my original power supply. I noticed a severe drop in voltage when I was accessing my drives. Now. I have the lowest power requiring drives I can find so I knew it was not the drives' faults. I had been itching to install one of the "switching" power supplies so here was my chance. I installed the power supply in about 4 hours. This amount of time was not bad considering it was the first one I had changed by myself. I "jumped" and installed my cards. crossed my fingers and turned 'er on. Hmmmm. it didn't make any obnoxious noises or emit smoke! I must have gotten it right! I noticed immediately there was NO fan noise. I had previously installed a "quiet" fan but this still made some noise.

I also removed the transformer from inside the console and ran the power for the "mother-board" from the P.E. Box transformer. I don't have the "ole coffee warmer" anymore. My console runs so cool. I can feel the heat from my X-Basic cartridge! I now run 4 disk drives. my console. and the P.E. Box from ONE power cord!! My desk is no longer an electrician's nightmare and I can run all my computer equipment from one 5 outlet power strip. I even have a 110 volt outlet on the back of my P.E. box for a hard drive (future expansion plans)! My drives all run faster,quieter and smoother and my console has not locked up with X-Basic no matter what length of time I spend on it! The one drawback I have noticed, is the fact of not being able to turn off the console separately from the P.E. Box. I have managed to locate a supply of three pole-double throw mini-toggle switches so that problem can be remedied. They would work pretty much the same as the "reset" button on an Ingestor(of) Big Memory machine.

I will be willing to help anyone with this project who wishes to do it. I will NOT do it for you for free! I am more than willing to write you out the instructions and connections to be made. If you wish to come to my house on a Saturday morning or Sunday afternoon I will even help you!

If you undertake this project on your own I recommend you have a copy of the T.I. schematics for ALL cards and equipment you modify. I have copies you can borrow or make copies from. I strongly recommend you get the June '93 edition of Micropendium and read the article by Jack Miller on page #7. This is a "MUST"! I also recommend the REMOVAL of all "jumpered" regulators. You can jumper them and leave them on if you wish BUT they serve no purpose and are merely another component to go bad and "short-out". It's your money and you takes your own chances!

The author of this article does not claim to be an authorized service representative of any company and will assume no responsibility for any dire consequences!

I have done this modification and I can assure you. I ain't no genius. With a little care and precaution YOU can do it also!

Now. let's go to the most controversial steps in the power supply conversion procedure. The REMOVAL of the regulators from the "cards".

Texas Instruments' original design. with it's "linear" power supply. was to ensure the steady supply of power to the peripheral devices. In order

to ensure that there would be sufficient power they heavily "over-supplied" the card strip bus and then each card would regulate the voltage it required. When I say HEAVILY, I MEAN heavily ! T.I.'s specs. originally called for +16 volts on the +12 volt line and +8 volts on

the +5 volt line. This was on an "ideal" power supply. I have found +25 volts on the +12 line and +13 volts on the +5 line. This is akin to using a 16lb. sledgehammer to drive a thumbtack. Sure, it can be done BUT you have to regulate the force.

There has been some talk of running the +12 volt line of the new power supply to the +5 volt line and leaving the regulators on the card. This will work but I compare it to having a horse pull a working automobile. What's the point? What we are trying to achieve is the supply of "clean" power and the removal of heat sources (the regulators). The removal of the regulators means if you place your "modified" cards into a standard T.I. PEB, you will have a new coaster to sit your coffee cup on !! It WILL be toast!! NEVER swap cards from system to system UNLESS they have the same type of power supply!

Ah, well, enough chit-chat, let's get on with the carnage!

Tool List:
• Low wattage soldering iron
• Small "Phillips" screwdriver
• Small "Flat" screwdriver
• Solder (small gauge, electrical)
• 24 gauge insulated wire
• Small "diagonal-cut" wire cutters
• Towel (to set your cards on)
• Small can (for screws, etc.)
• Ohmmeter

The T.I. Disk Controller Card : There are two handle clips onThe T.I. Disk Controller CardThe T.I. Disk Controller CardThe T.I. Disk Controller Card the "clam shell" covering. Remove them by lightly spreading the bottom of the loop apart. Set the clips in the can. There are 4 screws located in the corners of the case. Remove these screws. Some of the T.I. "clamshells" do not have the screws. Separate these style cases by depressing the locking "fingers" with your flat screwdriver. Spread the towel on your work space. Turn the disk controller screws side down and the screws should drop out. Place the screws in the can and lay the disk controller (henceforth to be called the "DC") with the drive connector to the right and facing up. The bus connector will be towards you. Insert

the flat screwdriver into the crack on the side where the shell halves meet. "Twist" the screwdriver, do not pry. The halves should separate. You might have to do this on both sides of the case. Do NOT put the screwdriver into either the opening for the bus slot or the one for the

drive connector.. The label on the top of the card might be stuck to both halves but just fold it over.

In the lower right hand corner of the card is a flat, 3 legged component. It will have the number TL780-05C, 78M05C, or some combination of 78 and 05 on it. It is easy to spot. On the lower left, below the LED (that little yellow or green "light" which comes on when the card is activated) is one which looks like it except it says 78M12C. The one with the 05 is the +5 volt regulator and the one with the 12 is the +12 volt regulator (Nope, don't take no rocket scientists 'round HERE!). Remove the card from the shell. Set the shell aside. Plug in the soldering iron. Lay the card, component side up, so the LED is to your left and the drive connector is to your right. Insert your flat screwdriver (you know, if you use Orange Crush instead of Orange juice those screwdivers wouldn't be flat!) beneath the outer/lowest leg of the +5 reg. Heat the leg with the soldering iron and gently twist the screwdriver. The leg will lift free. Bend this leg up out of your way and do the same to the other two legs. Do the same to the +12 regulator. Cut a 1 inch long piece of the 24 ga. wire. Strip and tin the two ends of the wire. Insert and solder one end of this wire into the closest/lowest hole where the +5 regulator was. Insert and solder the other end into the farthest/highest hole of the +5 regulator. Ignore the center hole (this is the "ground" terminal for the old regulator). Do the same for the +12 regulator. Turn the card over, component side down, and clip off any protruding wire from your "jumper" wires.

You can ohm test your card if you wish (I highly recommend it!). Look for a DIRECT connection (0 ohms) to ground (the center hole of the old regulator). There will be a 750 ohm (apx.) between the +5 leg holes and ground. THIS IS NORMAL! There should be NO direct (0 ohm) connection! you do have a connection, check your solder. Make sure the solder did not "pool" and make an overlap with any other traces (the small "lines" on the circuit board). Correct any problems and retest. Unplug your soldering iron.

Insert the card into your "IBM" powered box (I never replace the "clam-shells"!), connect the drive controller cable and turn on the power. The drive motor should turn on and run for about 10 seconds. If the drive light comes on and stays on, you have the cable reversed. Turn it over and try again. 32 K Memory Card

This is the same as the drive controller with the obvious exception of not having a drive cable. If you "stand" your PEB on "end", you might want to put the "clam-shell" back on this card. It has no protruding end such as the DC, RS-232 and the flex cable interface have

to hold them into place. I use a thin piece of plastic to "insulate" it from my DC card.

Flex Cable Interface Remove the shell the same way. Flex Cable Interface Flex Cable Interface Flex Cable Interface Place the card with the chips up and the "firehose" leading to the right. On the very lower right hand corner you will see the +5 regulator (hey, you're starting to get good at this!). Remove and jumper it. This is the only regulator on this card! Replace the "clam-shell" on this card. You need the "tab" on the rear of it to attach it to your PEB. Do NOT take apart the end which attaches to your computer. There may be no need to replace the regulator mounted on the small board in there. The end can be a real nightmare to put back together correctly. Try the card without removing the regulator first. My luck has been running about 6 to 1 towards removing this regulator. You can always pull the "foot" apart if yours needs to have the regulator removed

RS-232 This card is a little trickier but it is still RS-232 easy. Remove the shell. Lay the card component side up and the cable connections to the right. The +5 and -12 regulators are in their usual spots. Remove and jumper them. Approximately 1 inch to the right and 1/2 inch above the +12 regulator (the one on the left by the LED) you will see a small 3 legged component shaped like a transistor (it is shaped like a small black coffee can, flattened on one side, with 3 legs). It is marked "Q3" on the board. This is a -12 volt regulator. Remove it by grasping the plastic body and heating the legs until it comes free from the board. The three holes it was in form a triangle as opposed to the line formed by the other regulators. Insert and solder one end of a jumper wire into the TOP (towards the top of the card AWAY from the bus strip) hole. Insert the other end of the jumper wire into the leftmost (towards the LED) and solder. Test your soldering with the ohmmeter. REMEMBER!! You are looking for a DIRECT ground. Some cards will show a connection with a resistance. This is normal.

Place your cable card back into the PEB. Insert the mounting screw and tighten. Turn on the power. The LED in front should come on. Let it run for 5 minutes. No Smoke? Turn off power. Install your RS-232. Power up again. There should be a light on the cable card and none on the RS-232. Do the 5 minute test again. Do the same for your 32K memory card. The cable card LED should stay LIT when power is on!! The 32K card LED should flicker briefly at power-up and then go out.

Power down. Hook the "firehose" into your console. Turn on the PEB. There should be no LEDs lighted. Turn on your console. The flex cable LED should light. Insert your Extended Basic cartridge. Go to the

command prompt of the X-Basic (you know, hit any key and then select "2" for X-basic). The computer should try to access the drive. Make sure you have drive #1 hooked up! The cable card LED should flicker, the DC LED should light, the 32K should flash and the disk tries to engage. Now, put a disk in with a "Load" program and attempt to "load" it. It works? Fine, install the drives and close her up! If it does not work and the connections are correct you will need to dis-assemble the "foot" and remove the regulator inside. Remove the 4 screws and separate the halves. You should be able to spot and replace the regulator by now. Make sure you get the cable connector back into place and all the way "forward" before you tighten the screws.

Any "after-market" cards will need to have the regulators jumpered on them also. Most of them will only have a +5 regulator. They will almost always be in the lower right hand corner. Remove and jumper them as usual.

One notable exception is the "Geneve" computer card (or Myarc 9640). This cadillac has from 5 to 7 regulators on it. They are removed and jumpered the same as any other regulators. Be VERY careful with these cards. The "Traces" on these cards are extremely delicate and must be handled with the utmost caution!!!!

As with any project of this type, if you undertake this mission the company will dis-avow any knowledge of your actions. This tape will self destruct in 5 seconds (cut to theme music, and close-up of smoking PEB)

Well, we have made it this far with no mishaps (that minor one where we had to call the Fire Department we won't discuss). Now it is time to finish the final step. The removal and replacement of the ol' "coffee warmer" power supply INSIDE the T.I. console.

The tools needed for this part of the project are :
• Phillips screwdriver
• soldering iron and solder
• wire cutters
• electrical tape

Apx. 4 feet of 4 strand electrical wire (minimum of 20 gauge. I used "trailer" wire. You can find this article at almost any auto parts store or "Ace" hardware store. It is color coded and also plastic coated for durability.) 2 sets of 4 pin connectors (2 male and 2 female) (I used Radio Shack connectors #'s 274-204 and 274-205. These are stout connectors with a good strain relief attached. Matt Matthews uses a 4 pin "microphone" style connectors with good results. Any type of 4 pin connector may be

used) small "flat" screwdriver small container for screws. etc. "Volt/Ohmmeter"

The first step in this procedure is to disconnect the power transformer from the wall and the console. Discard the transformer. Turn the console switch to the "off" position. Turn the console upside down with the "on-off" switch facing you. Insert the flat screwdriver beneath the front edge of the "slide" switch and pry the slide off (for those of you who are converting a "tan" console you can ignore this step). Now, take the Phillips screwdriver and remove the 7 screws holding the console halves together. There should be three screws on the "top" or "far" end and four on the "near" or "bottom" end. I say "should" because when the console was originally shipped there were seven. However, in the process of "cleaning" or repairing your console over the years you may have, ahem, "forgotten" to replace all of them. It is said the difference between a "mechanic" and a "technician" is the fact that a "mechanic" will replace all screws, bolts, and brackets removed while a "technician" does not need all those "extra" parts.

Lift the top part of the console (actually the "bottom" but I am not going to argue semantics at this late stage of the game!) and set it to one side (or t'other). In the lower left of the console you will notice a "small" circuit board (apx. 3 1/2" by 4"). Remove the two screws holding it on. Do not remove the one screw which is recessed. Lift up this C.B.. There will be a white plastic "clip-on" connector attached to the board. Disconnect this by squeezing the "clip" and pulling. Lift out the old "power" receptacle (connected to the wires still attached to the C.B.) and the wires which may be taped to the metal shield. Discard the C.B. and wires. Lift out and discard the remainder of the old "on-off" switch which you will find lying in the slot.

Now might be the time to give your computer that thorough cleaning you have been meaning to do for the last 2 years or so!

Hold the white plastic connector going to the computer with the retaining clip up and the wires going AWAY from you. The voltages are: (from left to right)

------*--------*---------*----------------*-----------

Pos.(+) 5   Ground   Pos.(+) 12   NEGATIVE(-) 5 Volts
Tape and label each wire about 3" inches away from the connector. Snip the wires at the connector and discard the connector. Strip and tin the ends of these wires. Cut a 5" long piece of the 4 strand wire. Strip and tin both ends of this section of wires. (Yeah, yeah, I know I did not tell you to plug up your iron, so sue me!). Solder each wire leading from the console to one wire of the 5" section (so

help me. NOBODY better even call me and tell me they connected all the wires to ONE wire and now their console won't work!!). and tape each connection. Take the MALE connector and open it up. Remove the metal pin and they just slip apart. The strain relief will come off if you remove the screws and bend each metal bracket back. Slide the cover part of the connector over the wires. Connect the NEGATIVE 5 volt wire to pin number two FIRST!! BJ and I have fought this connector and she found the easiest way to do it is to solder the number 2 pin first! Then connect the positive 12 volt wire to pin number 1. Then the positive 5 volt wire to pin number 3. Finish off with the ground wire to pin number 4. Slip the connector back together (there is a small pin which slides into the hole to hold it together). you might have to do a little touch-up on your soldering in order to make the connector fit. UNPLUG your soldering iron and put it into your hip-pocket (just checking to see if anyone is paying attention!) and scream. The set-up you have now should be:

Pin #1	Pin #2	Pin #3	Pin #4
– 12 volts	(-) 5 volts	– 5 volts	Ground

String the new wire and connector out the cut out for the old power transformer plug. Tape the wires to the metal heatshield. Place the top/bottom of the console into place. replace and tighten all the screws (however many there might be!). Place the console aside.

Take your soldering iron out of your hip-pocket (don't worry, the heat will have cauterized the wound!) and plug it in. Strip and tin both ends of the section of wires you have left. You can cut the length to whatever size you want. Connect one female end and one male end to the length of wires. Make sure you follow the color coding you used on the console. If you did not get color coded wire make SURE you "ohm-out" EACH connection with it's corresponding pin number!!! . Set this cable aside. Strip and tin the four wires you have extending from your P.E. BOX (HEY! Remember the previous article?) and attach them to the remaining connector. Unplug the soldering iron and put it away. Assemble all the connectors if you have not done so. Connect your voltmeter and turn on the P.E. Box. Check the voltages on your P.E.B. connector first. If they are hunky-dory then power down and connect your extension cable. Turn on the power and check the voltages at the end of this cable. OK? Power down again and connect your console to the cable. Connect the monitor cable and turn the power on. You should have the T.I. screen on your monitor! If you do, then power down again and connect the "fire-hose" cable. Power up and you are running with "real" power now!! Your console will remain so cool, you will be able to feel the "heat" actually generated by
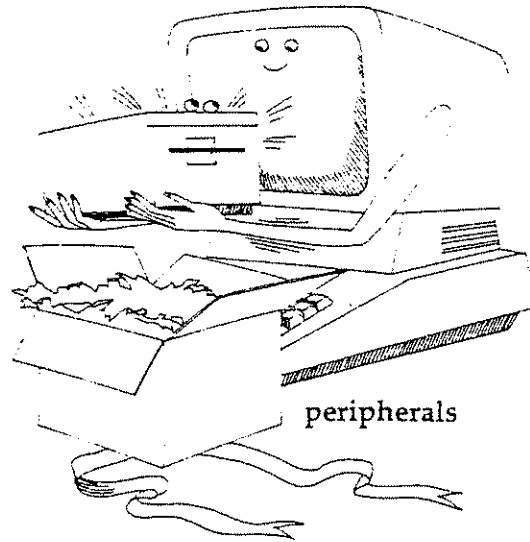
your X-Basic cartridge! There are many different things which "could" have been done in this article. I, myself, would recommend the use of "heat-shrink" tubing in place of electrical tape to cover the connections. I would use "grommets" for all holes drilled in metal where wires pass through. I use a "Dremel" tool with cutting wheels and various stones to make the holes and removal of the studs. I have tried to write this article using the "simplest" methods which should be available to everyone in the T.I. community. I hope this article has helped you to learn more about this fine machine we are still learning about and enjoying. I believe you will enjoy this "conversion" to a "switching" style power supply and your faithful T.I. will continue to serve you for many more years.

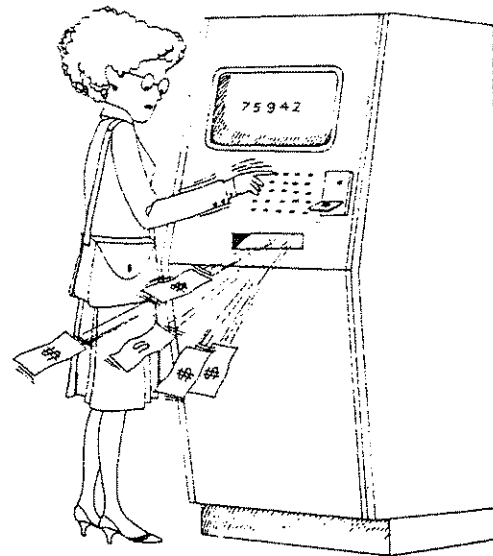As per the usual warning, if something goes wrong, TOUGH!!!

END OF ARTICLE

How to contribute to your Magazine

All 🖳 or 📠 or 💾 posted to C/O 3 Storey St Ryde 2112 Australia
We are able to publish articles forwarded to us in the following manner.

* Printed letters or articles
* Articles left on the TI. BBS. IBM or TI computers can leave TEXT files.(PH. NO.02 4564606) *Free to all TIsHUG members*
* TI Computer floppy disks....5.25" DSDD or DSSD.....Text files, Funnelweb or TI Writer
* IBM compatible Floppy Disks.....5.25"or 3.5", we can process - text files, Word for Windows ver: 1.0 - 6.0, WordPerfect, and Word for Macintosh ver: 5x. (on a IBM formatted disk)

These items can be posted to the above address or could be handed to the Editor or one of the Club Directors. Please put your name on the disk so it can be returned

JUST A ONE LINER (ED)

Doctor doctor, I keep thinking I'm a goat."
"How long have you had this feeling?"
"Since I was a kid."

PEEK

peripherals

personal code
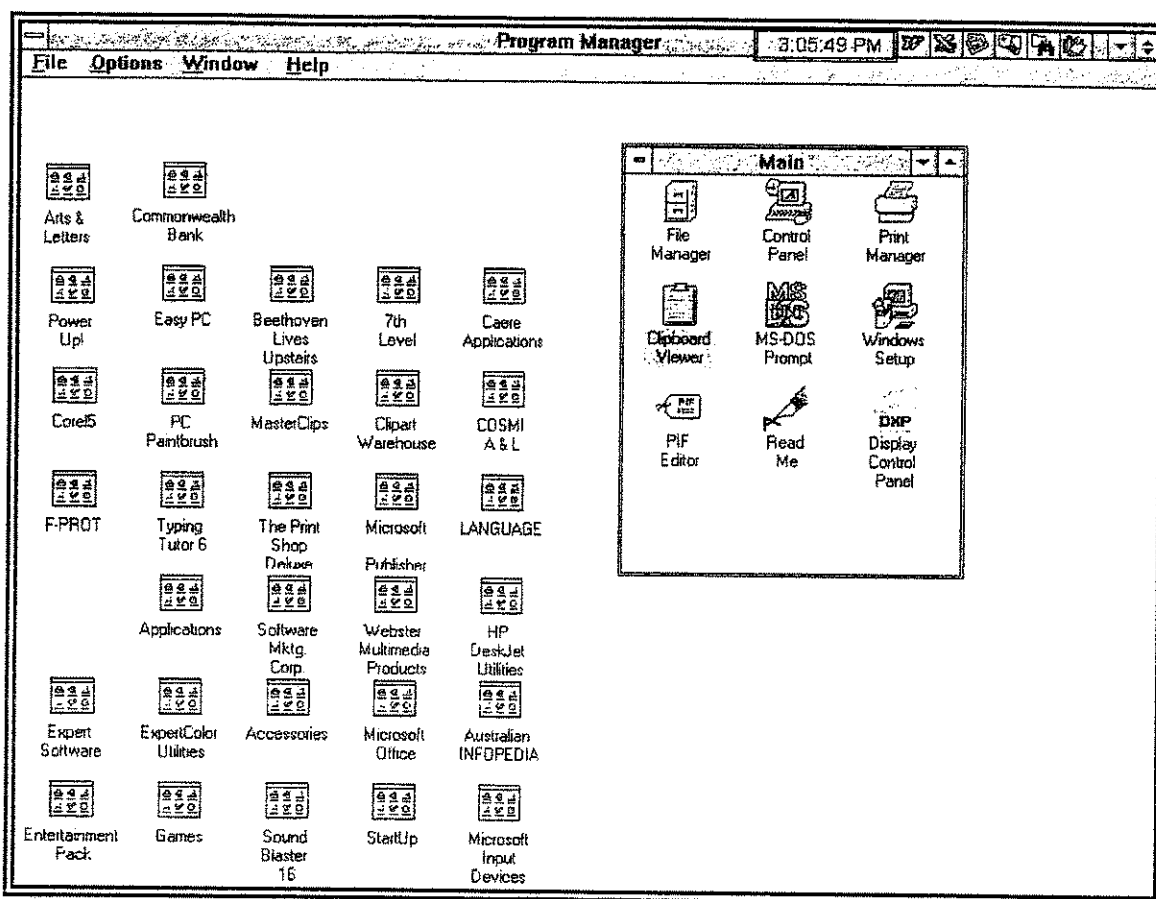
WORKING WITH WINDOWS
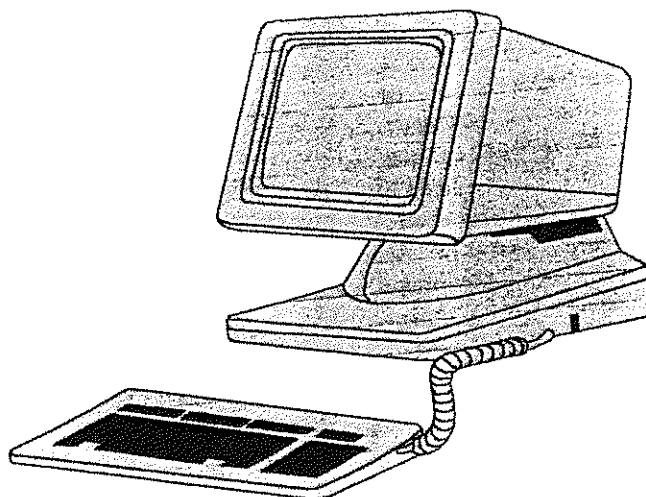
Arranging Windows and Icons

Using Program Manager commands, you can arrange your desktop so that windows and icons are easy to see. The Tile command resizes and arranges the open group windows side by side in the Program Manager window. The Cascade command resizes and layers open group windows so that each title bar is visible.

To arrange group windows on your desktop

From the Window menu, choose Cascade or Tile.
Use the Arrange Icons command to evenly arrange the icons in a group window.

To arrange program-item icons
From the Window menu, choose Arrange Icons.
You can also specify that Windows rearrange the program-item icons in a group window whenever you change the window's size, add items, or move items.

To rearrange program-item icons
From the Options menu, choose Auto Arrange.
A check mark next to the command means it is in effect.

WORKING WITH WINDOWS

Changing an Icon

If more than one icon is available for a program item, you can change the icon.

To change an icon

- 1   Select the icon you want to replace.
- 2   From the File menu, choose Properties.
- 3   In the Program Item Properties dialog box, choose the Change Icon button.
- 4   If more than one icon is available in the Current Icon area, scroll through the icons by clicking the scroll arrows or by using the LEFT and RIGHT ARROW keys. If you would like more icons to choose from, you can scroll through all the available Program Manager icons. In the File Name box, type c:\windows\progman.exe and then press ENTER.
- 5   When the icon you want to use is selected, choose the OK button.
- 6   In the Program Item Properties dialog box, choose the OK button.

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END OF ARTICLE

The IBM SHOP

with Cyril Bohlsen

Please NOTE that TIsHUG can supply a a range of computers or components to suit most requirements that you may have.

Our prices are very competitive and will be cheaper than most outside suppliers.

When you are considering buying the next piece of equipment, why not get a price from us and help keep the club alive.

See me on meeting day or phone me at home (02) 639 5847 and I will contact our supplier and let you know the price.

FOR SALE

see the shop

"TANBERG" TAPE BACKUP UNIT

MODEL 3800   540mb UNCOMPRESSED

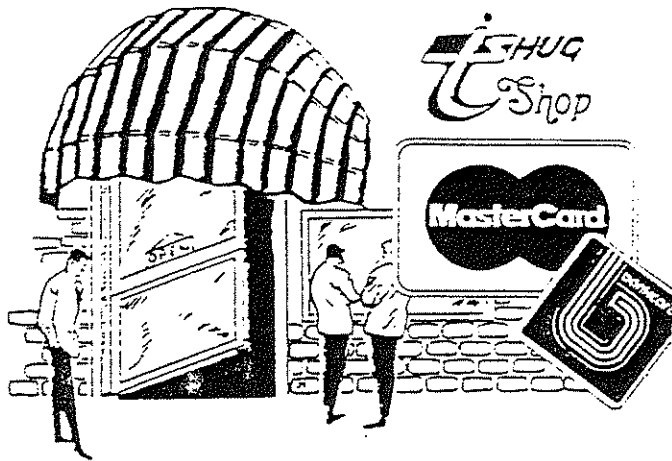TAKES LARGE TAPES eg. DC6525 etc.

COMES WITH:-
ONE SPARE TAPE
CLEANING KIT
MANUAL
NEW IN BOX

PRICE $320.00

For current pricing of items not listed please contact Cyril Bohlsen at the general meetings or Phone (02) 639 5847

NOTE : All prices listed are at time of printing, and may change at any time. Prices do not cover posting and packaging.

The IBM SHOP

with Cyril Bohlsen

|	
20mB Seagate ST351A/X HDD IDE	$ 25.00
3.5" Disk storage box (100 cap)	$ 10.00
5.25" Disk storage box (100 cap)	$ 10.00
Parallel printer cable 1.8M	$ 5.00
3 Button mouse	$ 14.00
2 Button Microsoft mouse S/H	$ 14.00
Mouse pad	$ 1.50
Keyboard Fujitsu 101 keys S/H	$ 20.00
3.5" Panasonic floppy disk drive	$ 45.00
5.25 Panasonic 1.2mb FDD S/H	$ 25.00
3.5" power adaptor cable	$ 6.00
Mouse adaptors 25M to 9F/M	$ 5.00
Mouse adaptor 25F/M to 9M	$ 5.00
15-9 pin "D" adaptor for Monitor	$ 6.00
Joystick "Blastick" (IBM)	$ 20.00
Auto Print Switch 'Agilier AGX-201P)	$ 20.00
Enhanced IDEIO VL controller	
2 serial, 1 parallel, games	$ 15.00
CPU fan & heat sink (not PCI)	$ 8.00
Heat sink for 486 CPU's	$ 2.00
8mb Simm 72 pin 60ns N/P	$ 90.00
4mb Simm 72 pin 70ns N/P	$ 45.00
1mb Simm 30 pin 70ns with Parity	$ 15.00
1mb Simm 30 pin 100ns with Parity	$ 8.00
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486 VL Buss mother board S/H	$ 30.00
386 Mother board with DX25 CPU	$ 30.00
Internal "Creative CD-ROM drive	$ 40.00
Sound blaster 16 sound card	$ 60.00
Microsoft BOOKSHELF CD-ROM	$ 7.00
CANON BJC-210 colour printer	$ 320.00

CHEAP STARTER

IBM CLONE 486SX33 COMPUTER

486 VL MOTHER BOARD
INTEL 486SX CPU
106mb SEAGATE HARD DISK
VL-IDE I/O CONTROLLER 2 HDD PORTS,
    2 SERIAL, 1 PARALLEL, GAMES PORT
1.44 FLOPPY DISK DRIVE
4mb RAM
2 SPEED CD-ROM
SOUND BLASTER 16 SOUND CARD
SPEAKERS
MINI TOWER CASE
EGA MONITOR
EGA VIDIO CARD
101 FUJITSU KEYBOARD
MICROSOFT MOUSE
MOUSE PAD

PRICE .... $ 475.00
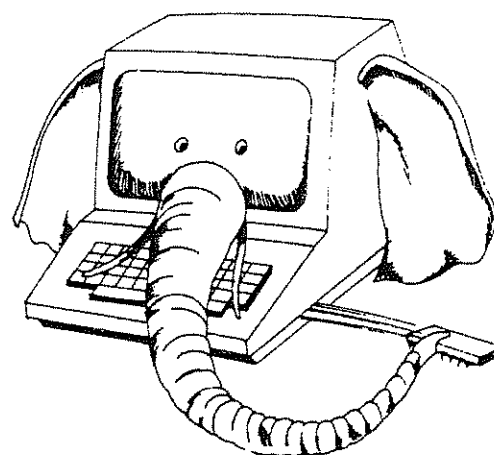
read-only memory
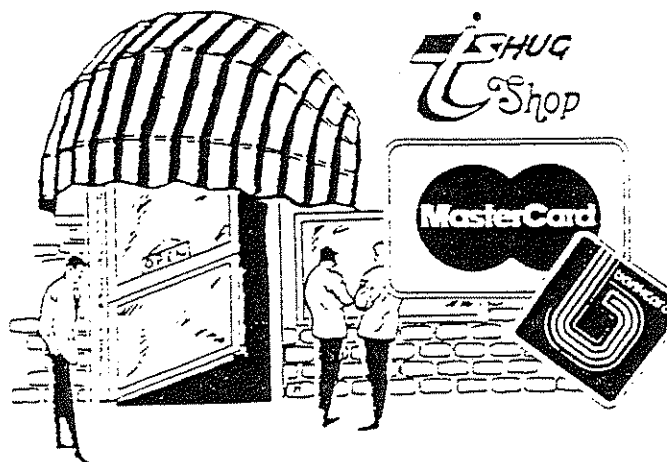
SPECIAL

QUENCH IBM 486DX2/66 COMPUTER

486 256 CACHE VESA BUS MOTHER BOARD
IBM 486DX2/66 CPU
HEATSINK & FAN
540MB "SEAGATE" HARD DISK
VL-IDE SUPER I/O CARD 2 HDD PORTS.
      2 SERIAL, 1 PARALLEL, GAME PORT.
1 MB VGA CARD
1.44MB FDD
8MB RAM
HEX SPEED "MITSUMI" CD-ROM
16 BIT SOUND CARD
STERIO SPEAKERS
MINI TOWER CASE
14" "SAMTRON" SVGA MONITOR
101 "FUJITSU" KEYBOARD
MICROSOFT MOUSE
MOUSE PAD

PRICE .... $ 850.00

THE HISTORY OF SCOTCH#

It is believed that the ancient art of distilling was brought to Scotland in the 6th Century by travelling monks. These European monks had been taught the medicinal art of distilling while travelling through Egypt and Asia. During the next one thousand years distillation was at the heart of medicine, alchemy, chemistry and magic. The Scottish Exchequer Rolls of 1494 were the first written reference to whisky production. They reveal that in August 1494 Friar John Corr was directed to distil according to the King's command.

During the next two hundred years distilling of Scotch whisky was a small scale, domestic pursuit. In 1655 the Haig family produced a grain and malt whisky in a pot still which allowed large scale distillation of whisky.

By the mid 19th Century a few keen and astute families had perfected the art of whisky blending and had begun producing Scotch whisky on a global scale.

THE HOUSE OF JOHNNIE WALKER#

One of these visionaries was John Walker. In 1820, following the sudden death of his father, John Walker at the tender age of fifteen set up a grocery business in the town of Kilmarnock. During the next decade he became an expert in the skill of blending teas. Then turning his attention to the art of whisky making, he utilised his blending skills to develop a superior and distinctive Scotch whisky.

John Walker's son Alexander trained in the whisky business in Glasgow. He joined his father's business shortly before John's death in 1857. Over the next thirty years Alexander transformed his father's local grocery store into a prominent whisky business. Alexander's aim was to make our whisky of such a quality that nothing in the market shall come before it.

Using the blending skills passed to him by his father, he created a Scotch called Walker's Old Highland Whisky. This true Victorian whisky quickly became a favourite and is still produced using the exact same recipe. Today we know it as Johnnie Walker Black Label.

Alexander Walker had two sons, George and Alexander, who transformed this thriving Scotch whisky business into a truly global enterprise. In 1894 the brothers acquired the Cardhu distillery and in 1906 they extended their range of blended whiskies. While they acknowledged that nothing could match their father's Old Highland Whisky, they wanted to create a new variety which would reflect the vitality and character of the era. Using the purest, most natural ingredients and only Scottish highland springwater, the Walker Brothers skilfully blended 40 different malt and grain whiskies to create an extraordinary new Scotch. They called it Special Old Highland Whisky. The name was later changed to Johnnie Walker Red Label but this superior Scotch whisky is still produced using the original recipe and production techniques.

To celebrate and distinguish the launch of this new whisky a new company name and logo were conceived. From this time the company became Johnnie Walker and the distinctive Striding Man logo was created. This symbol became one of the first internationally recognised trademarks.

By 1920 Johnnie Walker had become one of the top three whisky companies in the world and by 1945 Johnnie Walker Red Label had emerged as the world's leading Scotch whisky brand. Johnnie Walker Scotch Whisky is still produced using only the finest Scottish whisky blends and original recipes. Four hundred years after John Walker first dabbled in whisky blending Johnnie Walker Scotch remains the finest Scotch whisky in the universe.

If you would like more information and to receive regular mailings from Johnnie Walker please send your name and address to:

> FREEPOST
> Johnnie Walker & Sons
> PO Box 157
> Artarmon NSW 2064

(ED. Comments)
This story was edited from a games disk that Larry Saunders had received when purchasing a bottle of Johnnie Walker Scotch Whisky
If you would like to see this game please see Larry at one of our meetings .

IBM TIPS

By Loren West

Q. Can I cut and past from DOS Programs to Windows.

A. Cutting and pasting from DOS to Windows is similar to cutting and pasting between two Windows programs. First, you need to have the DOS program in a window. If the DOS program is full-screen, press Alt-Enter to put it in a window. Now you can copy text from the program by clicking on the box in the upper left corner of the DOS window. Then select Edit, and Mark. Now use the mouse to highlight the text you want to copy from the DOS program. Start in the upper left corner of the text you want to select and hold down the left mouse button. Continuing to hold down the button, drag the mouse across the text you want to copy. Now release the mouse button and click on the box in the upper left corner of DOS window. Choose Edit, and then Copy. You can now paste the text that you highlighted into a Windows program, or into another DOS program, by clicking on Edit and then paste

Below is a screen print of DOS, behind it you can see Microsoft Word. I have copied some text from the DOS screen to Word.
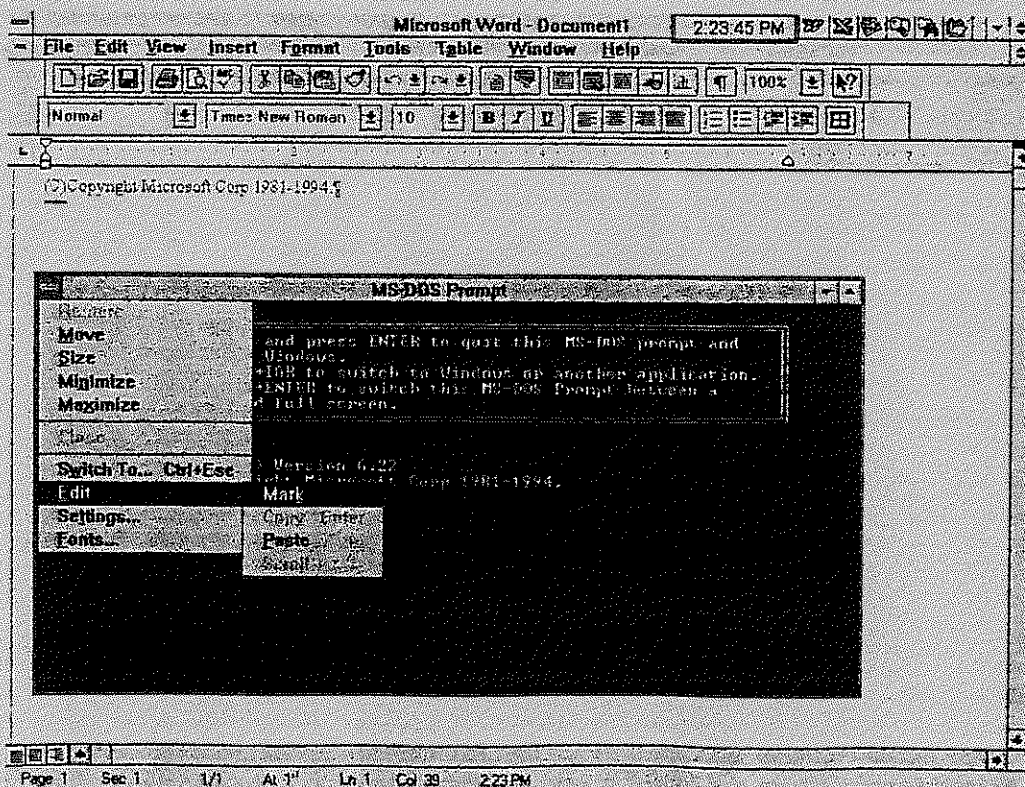
REGIONAL GROUP REPORTS

Meeting Summary For **SEPTEMBER**

Central Coast	14/09/96 Saratoga
Hunter Valley	15/09 22/09/96
Illawarra	10/09/96 Keiraville
Liverpool	13/09/96 Yagoona West
Sutherland	20/09/96 Jannali

CENTRAL COAST Regional Group
Regular meetings are normally held on the second Saturday of each month, 6.30pm at the home of John Goulton, 34 Mimosa Ave., Saratoga, (043) 69 3990. Contact Russell Welham (043)92 4000.

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HUNTER VALLEY Regional Group
The Meetings are usually held on the second or third Sunday of each month at members homes starting at 3pm. Check the location with Geoff Phillips by leaving a message on (049) 428 617. Please note that the previous phone number (049)428176 is now used exclusively by the ZZAP BBS which also has TI support. Geoff.

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ILLAWARRA Regional Group
Regular meetings are normally held on the first Tuesday of each month after the TIsHUG Sydney meeting at 7.30pm, at the home of Geoff Trott, 20 Robsons Road, Keiraville. A variety of investigations take place at our meetings, including Word Processing, Spreadsheets and hardware repairs. Contact Geoff Trott on (042)296629 for more information.

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LIVERPOOL Regional Group*
Regular meeting date is the Friday following the TIshug Sydney meeting at 7.30 pm. Contact Larry Saunders (02) 644-7377 (home).

*** ALL WELCOME ***

13th SEPTEMBER 1996
11th OCTOBER 1996
8th NOVEMBER 1996
13th DECEMBER 1996

Bye for now Larry.
Liverpool Regional Co-Ordinator

━━━━━━━━━━━━━━━━━━━━━━

SUTHERLAND Regional Group
Regular meetings are held on the third Friday of each month at the home of Peter Young, 51 Jannali Avenue, Jannali at 7.30pm. Peter Young.

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TISHUG in Sydney
Monthly meetings start promptly at 2pm on the first Saturday of the month. They are held at the MEADOWBANK PRIMARY SCHOOL, on the corner of Thistle Street and Belmore Street, Meadowbank. Regular items include news from the directors, the publications library, the shop, and demonstrations of monthly software.

| SEPTEMBER MEETING -7th SEPTEMBER |
|---|

OCTOBER MEETING -5th OCTOBER

The cut-off dates for submitting articles
to the Editor for the TND via the BBS or
otherwise are:

22nd SEPTEMBER FOR THE OCTOBER MAGAZINE

These dates are all Saturdays and there is no guarantee that they will make the magazine unless they are uploaded by 6:00 pm, at the latest. Longer articles should be to hand well before the above dates to ensure there is time to edit them.

TOOL TIME
At Cyril Bohlsen's home the second Friday of each month
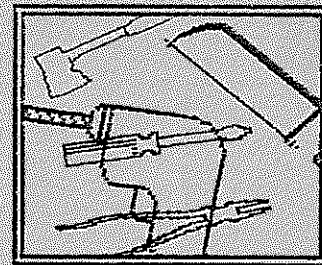
Tune up your system,
Help someone else with their problem
What-ever it may be. Be there

JUST A ONE LINER (ED)

What did the cannibal have for breakfast?
Baked Beings.