THE GUILFORD 99'ER NEWSLETTER

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The Guilford 99'er Users' Group Newsletter is free to dues paying members (One copy per family, please). Dues are $12.00 per family, per year. Send check to P.O. Box 21691, Greensboro, NC 27420. The Software Library is for dues paying members only. (Herman Geschwind, Editor)

OUR NEXT MEETING

DATE: June 3, 1986. TIME: 7:00 PM PLACE: Glendwood Recreation Center 2010 S. Chapman Street.

File management will be the topic for this month. The emphasis will be on how to organize, recall, and manipulate records and set up a simple data base.

TI SHOPPER

by Bob Carmany

It appears that the days of the "poor" 16K TI are long past. Recent introductions in the hardware market allow you to move into the true "big leagues". Not too long ago, the 128K card was more or less the limit as far as memory expansion is concerned. Now, there is a choice of 512K cards and standalones for the TI.

Mechatronic Gmbh has marketed a 128K RAM-GRAM card that is upgradable to a full 512K. T.A.P.E. handles this card and the retail price is $249. Corcomp has also come out with an upgradable card as well as a standalone for the 9900 system. The card comes in two configurations --- 256K and 512K in both PEB cards and add-ons for the 9900 Micro Expansion System. The prices are: 256K $169.95 (PEB), $249.95 (standalone), and 512K $229.95 (PEB), $269.95 (standalone). Interesting developments!!

On the software scene, Craig Miller is now shipping the DISkASSEMBLER package. It will disassemble DIS/FIX 80 or PROGRAM image files either directly from disk or from memory. It creates fully labeled source code and will dump the results to disk, printer, or any other standard peripheral. The catalog price is $19.95. It should be the perfect companion to EXPLORER and DIAGNOSTICS.

For those of you with the outstanding GRAPHX program, there are two entries from ASGARD Software that are worth looking at. If you are as lazy as I am, you will be able to make good use of the character fonts and clipart on the "flippy" disks. There are two of them: GRAPHX COMPANION I &II. They are a paltry $7.00 each from ASGARD Software. That is a real deal!

On the "freeware" market is PRBASE (see last month's newsletter), FUNLWRITER (version 3.2), and the update of Marty Kroll's DISK LIBRARY program. The last one is so "user friendly" that there is almost no need for documentation -- it is provided, though.

Clint Pulley has come up with an updated version of C-99 that might be worth looking at for $20 (if only I were rich).

Edgar Dohmann has a revised version of SBUG out that makes the original pale by comparison. So, the marketplace is really humming with commercial entries and "freeware".

Although not either software or hardware, THE SMART PROGRAMMER (Miller's Graphics) has been purchased by BYTEMASTER (Super 99 Monthly). Super 99 Monthly will be discontinued and THE SMART PROGRAMMER will take its place. Those of you who subscribed to either one will now get THE SMART PROGRAMMER. The renewal rates for the magazine is $15.00. Craig Miller and the old staff will be contributing to THE SMART PROGRAMMER, so it should live up to its past quality.

Here are a few "bits and bytes" of information that might be of interest to you all. I have discovered a source for disk drives at unusually low prices. Janick Data, 1869 Riverbirch Dr., Sumter, SC 29150, phone (803) 481-9205 has Tandon and CDC full height drives available for $49.95 (DSDD) and $34.95 (SSDD) plus $5 shipping. The drives are bare and ready for installation into a PEB or external power supply.

Locally, Ron Wahl, 511 Leawood Dr., works on disk drives that are "sick" or "dying". His phone number is 299-5824. The prices that he quoted me seem to be V-E-R-Y reasonable.

Before I close, I just have to mention winner of the "I/O ERROR" award. It goes to the rip-off artists at Home Computer Magazine. After promises of better service and more programs, etc. they ceased publication in January leaving everyone disappointed (and probably out the amount of the unfilled subscription). Gary Kaplan et. al. are to be congratulated on their fine business acumen for taking our subscription money and "sneaking out the back door" without even telling anyone that they are no longer publishing the magazine.

XB DETECTIVE

by Terry Atkinson

There are many utility programs on the market, both fairware and commercial, which are indispensible when it comes to debugging, crunching, listing variables, checking line references, etc, in Xbasic programs. One such program is a commercial product called XB DETECTIVE.

XB DETECTIVE comes on a disk which cannot be copied, except with a track copier. Entering Xbasic with the XB DETECTIVE disk in drive one, automatically loads and executes the program, and you are returned to the Xbasic prompt "READY". You then load the program to be debugged/examined, and press FCTN 7 (AID) which then takes you to the XB DETECTIVE main menu which reads as follows:

1. LIST VARIABLES
2. FIND VARIABLES
3. FIND RESERVED WORDS
4. DELETE LINES
5. STRING SEARCHES
6. RETURN TO (X)BASIC

So you have loaded XB DETECTIVE, loaded your Xbasic program, entered XB DETECTIVE with FCTN 7, and press option 1. With this option the XB program is scanned and within a very short time (depending on the length of you XB program) a listing of all the variables, both string and numeric, are printed in two columns on the screen. You are then given the option to print this list to a printer, or continue the listing. Pressing C to continue, the next "page" of variables pops up. When the listing is completed, pressing C takes you back to the main menu.

Option 2 (FIND VARIABLES) does just that. You are asked for a variable name and wherever that variable is found in the XB program, a line number crossreference for that variable is shown on the screen. Again, you have the option to print the listing to a printer.

Option 3 (FIND RESERVED WORDS) presents a menu of Xbasic's reserved words, such as REM, END, INPUT, GOSUB, FOR, NEXT, etc. Selecting the key associated with the reserved word searches the XB program and generates a line number crossreference wherever that reserved word is found in the program. Again, you may print this list to a printer.

Option 4 (DELETE LINES) is very handy. Once selected, the program asks you for a start-line number and end line number to delete. XB DETECTIVE then deletes the line numbers specified.

Option 5 (STRING SEARCH) presents a menu asking whether you wish to search DATA statements, a string enclosed in quotes, or a string associated with a CALL statement. Then, you input the string to be found and XB DETECTIVE does it's work, indicating the line numbers this string is found in. Of course, you also have the option to print to printer.

Option 6 (RETURN TO XBASIC) is the final choice from the main menu. This enables you, at any time, to return to the program which you are debugging to make any necessary changes to it. Again, you may return back to XB DETECTIVE at any time by pressing FCTN 7.

Although the features of XB DETECTIVE are excellent, it certainly doesn't replace the other programs which can be used as a debugging tool for Xbasic programs. For example, Quality-Soft's QS-XREF does a superb job of generating a complete listing of options 1 & 3, and has the added feature of a line-number cross reference. Danny Michael's NEATLIST is similar. The SMASH program by OAKTREE does a superb job of shortening variable names, removing REM statements and "crunching" the program (combining non-referenced program lines). Tim MacEachern's CRUNCH is handy for changing individual variable names and at the same time, let's one know how much space is saved. The BIG PLUS for XB DETECTIVE is that it allows you to return to the Xbasic environment, manipulate your program and return to XB DETECTIVE for further "snooping". It is well worth the price for that feature alone. Options 2&3 which are user-input functions are both handled en-masse by other programs. Unique to XB DETECTIVE are options 4&5, the string search & delete lines functions. (Ignore the fact that the latter can be accomplished with the TI Programming Aids package. This one does it faster and easier).

In conclusion, I find that XB DETECTIVE is a very good utility, and would make a most welcome addition to your library, especially if you do a lot of Xbasic programming or wish to alter/enhance existing programs.

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ADDENDUM:
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For anyone contemplating writing a program such as XB DETECTIVE, here are a few things I would like to see included:

A. Like XB DETECTIVE: the ability to switch back and forth between the utility and the program being operated upon;
B. Like XB DETECTIVE: a search for individual variables, reserved words and string options;
C. Like XB DETECTIVE: a delete line/block of lines function;
D. Like QS-XREF: a global line-number referencing table;
E. Like QS-XREF: a global crossreference between line numbers and variables;
F. Like CRUNCH: the ability to change variable names on an individual basis;
G. Like CRUNCH: Convert common numeric constants into variables resulting in a saving of space .
H. Like SMASH: the ability to combine lines;
I. Like SMASH: remove all non-referenced REM (or !) statements;
J. Unlike any other: have a provision for UNcombining lines. (Handy for converting Xbasic programs to basic);

I'm sure you can come up with a few desirable functions of your own that you would like to see. Now all we have to do is con someone into writing one!

FROM THE PAGES OF MICROPENDIUM

by Bob Carmany

Here is a modification of a program that appeared in MICROpendium for April. The program was originally designed to count the number of words in a TI-Writer document. There were a number of problems with the original program so it was rewritten. The only drawback is that, since it is written in XB, it is slow. In fact, if the document is very long, you might make yourself a sandwich while you are waiting. At any rate, here it is:

```
20 ! ##########################
30 ! ## WORDCOUNT ##
40 ! BY B. DAVIES
50 ! MODIFIED BY R. CARMANY
60 ! COUNTS WORDS IN A TEXT
70 ! FILE IN
80 ! DISPLAY/VARIABLE FORMAT
90 ! REQUIRES XBASIC
```

```
100 ! ************************
110 CALL CLEAR
120 DIM B$(20)
130 B$(1)=".AD"
140 B$(2)=".BP"
150 B$(3)=".CE"
160 B$(4)=".CO"
170 B$(5)=".DP"
180 B$(6)=".FI"
190 B$(7)=".FO"
200 B$(8)=".HE"
210 B$(9)=".IF"
220 B$(10)=".IN"
230 B$(11)=".LM"
240 B$(12)=".LS"
250 B$(13)=".ML"
260 B$(14)=".NA"
270 B$(15)=".NF"
280 B$(16)=".PA"
290 B$(17)=".PL"
300 B$(18)=".RM"
310 B$(19)=".SP"
320 B$(20)=".TL"
330 DISPLAY AT(5,2)ERASE ALL:"Enter Text File Name" :: DISPLAY AT(10,7):"DSK"
:: ACCEPT AT (10,10)SIZE(12):D$
340 ON ERROR 560
350 DISPLAY AT(23,1):"FILE INPUT IN PROGRESS.  ."
360 OPEN #1:"DSK"&D$,INPUT ,DISPLAY ,VARIABLE 80
370 LINPUT #1:A$
380 IF EOF(1)=1 THEN 520
390 IF E=1 THEN 440
400 FOR B=1 TO 20
410 IF POS(A$,B$(B),1)=1 THEN 370
420 NEXT B
430 E=1
440 FOR B=1 TO LEN(A$)
450 C=ASC(SEG$(A$,B,1))
460 A=-((C>64)*(C<91))+((C>96)*(C<123))+((C>47)*(C<58))+(C=39)
470 IF A=0 THEN 480 :: D=1 :: GOTO 490
480 IF D=0 THEN 490 :: W=W+1 :: D=0
490 NEXT B
500 D=0 :: IF A=1 THEN 510 :: GOTO 370
510 W=W+1 :: GOTO 370
520 DISPLAY AT(12,1)ERASE ALL:"There are about" :: DISPLAY AT(12,17):W ::
DISPLAY AT(12,21):"words" DISPLAY AT(13,1):"in the Text File entered"
530 for delay=1 to 1000 :: NEXT DELAY
540 DISPLAY AT(17,1):"Another Text File? (Y/N)" :: ACCEPT AT(17,26)SIZE(1)
VALIDATE("YN"):CHOICE$
550 IF CHOICE$="Y" THEN RUN ELSE STOP
560 CALL SCREEN(7) :: DISPLAY AT(23,1)BEEP ERASE ALL:"DRIVE/FILENAME ERROR"
:: FOR DELAY=1 TO 500 :: NEXT DELAY :: CALL SCREEN(8) :: RETURN 330
570 END
```

CORCOMP DIAGNOSTIC MODULE

by Terry Atkinson

Some years ago, TI produced a diagnostics module for the TI99/4a which, although limited in scope, served a useful purpose in it's own right. Though this review will eventually lean towards the PDM99, I feel it necessary to do a comparison between the two modules so that potential readers of this article can draw their own conclusions and perhaps purchase one of the modules for their own use.

I will not go into the other diagnostics programs which are available. Most notably, the MG Advanced Diagnostics, and at least two other disk-based diagnostic programs. I will comment, however on their limited usefulness. Being disk-based, you would need a WORKING system in order to load and execute those programs. In other words, 32K, disk-drive and console . With the module based diagnostics, one only needs a working console to be able to CHECK OUT those other peripherals... which is the whole purpose behind a diagnostics program in the first place!

I am going to touch briefly on the TI Diagnostics Module (PHM3000, circa 1979). I find this module excellent for comprehensive tests of the console itself but useless for peripherals and external memory. Some of the tests performed are keyboard, RAM, video, sound, calculation, cassette and joystick ports. A final test is for maintenance personnel only, and requires a signature analyzer in order to evaluate this test. The question may be asked; "Well, if the console is not working, why have a diagnostics module to check it out?". My response is very simple. For most faults other than a power supply fault, the module would indeed work. In fact, a long time ago, I had a fault with my computer and this module told me where the fault was. Replacing a chip solved the problem, which has not recurred. Also, it was brought to my attention the TI technicians used the module to initially identify trouble areas when computers were returned for repair.

Now on to the more recent trouble shooting diagnostics module released in Dec 85 by CorComp. Called the PDM99 (Peripheral Diagnostics Module), it goes beyond where the PHM3000 left off in that it checks out the external equipment, such as disk-drives, RS232/PIO and 32K expansion. Since it is menu driven, it is very easy to use and the results easily interpreted.

The opening screen allows you to select the above tests, along with which disk-drive to access. Drive tests include formatting in 1S1D, 1S2D, 2S1D, or 2S2D format. Once the disk is initialized, it will randomly check a number of sectors for correct information. If an error is found, the program will let you know where the problem is. You can also check to see what the track-to-track access time is set at. This is not so important with the TI controller as the time is fixed at 10 or 20MS. However, the CC controller and the later 9900 systems allow a variation on access times. I have mine set for 3ms access using Teac half-heights, and find it works excellently using all formats and have had virtually no problems with other TI systems reading/writing to my disks.

Like the MG AD, the PDM99 will also check drive motor speed. No fancy graph-like display, though. The PDM99 give you an indication of motor speed with real numbers negating any error of interpretation.

The 32K test has two parts. First the program writes to the full 32K memory and reads the information back to see if it is the same. If so, the memory is good. The second part of the memory test is a refresh test. The program writes information to the full 32K and then counts down from 20 and goes back and reads the information. This ensures that data is not being lost due to a bad refresh.

The final major check is for the RS232 card, in that a test is sent to either RS232 port or the PIO port if desired. A printer is required for these tests. Another feature is the loop-back test. Supplied with the PDM99 is a DB25 plug, already wired for this test. This connector is hooked to your RS232 port, and the test executed. Data is sent from port 1 through port 2 and checked for accuracy.

Although I find these modules useful, I would not recommend purchase of them by individuals. Rather, I would suggest that users groups purchase the modules for loan to their members as required. The cost of the PDM99 is about $25 (U.S.) and is available at CorComp or TexComp. However, the TI version may be hard to come-by. I had to borrow one from the Ottawa 99/4 Users Group in order to refresh my memory (no pun intended) as to it's capabilities. I certainly wish I had not sold my original as I have had occasion to use it in the past, and probably will in the future.

The documentation supplied with the PDM99 is adequate. Since the program is menu-driven, it is extremely easy to use anyway. Once a problem has been discovered and diagnosed with the PDM, however, there is no further instructions on how to correct the problem, or to even narrow it down further. The only way out at that point would be to take it to a technician, or a member of the users group who is technically inclined.

FORTH FORUM

by Bob Carmany

If you are one of the few "unfortunates" who have the original TI-Forth disk, here are some corrections to speed up the Editor screens. As you probably know by now, TI-Forth did not supply "auto-repeat" with the Editor screens. That makes moving the cursor from one place to another a time consuming, boring job. The corrections included in this article will give you an "auto-repeat" cursor. All you have to do is change the lines indicated on the screens in your present system and add the new screen #41.

```
      SCREEN #34
 0 (SCREEN EDITOR 09JUL82 LCT) 0 CLOAD RKEY
10 : LISTA 0 0 GOTOXY DUP SCR ! ."   SCR# " DUP .
11 ." (decimal) " DECIMAL. ." )"     CR CR CR
   12 16 0 DO I 3 .R CR LOOP ; : ROWCAL S_H @ IF 29 + ENDIF ;
   13 : LINE. DO I SCR @ (LINE) DROP ROWCAL 35 I FTYPE LOOP ;
14 : LISTB L/SCR 0 LINE. ;

SCREEN #35
 1 : LISTL BASE->R LISTA 4 1 GOTOXY
 2 ."          1         2         3     " 4 2 GOTOXY
 3 ." ....+....0....+....0....+....0....+"
 4 0 S_H ! LISTB R->BASE ;
 5 : LISTR BASE->R DROP 4 1 GOTOXY
 6 ." 3         4         5         6     " 4 2 GOTOXY
 7 ." 0....+....0....+....0....+....0...."
 8 1 S_H ! LISTB R->BASE ;
 9 : BCK 0 L/SCR 2+ GOTOXY QUIT ;
   10 : PTR SCR @ B/SCR * CUR @ B/BUF /MOD ROT + BLOCK + ;
   11 : R/C CUR @ C/L /MOD ; ( --- COL ROW )
12 : DELHALF PAD 64 BLANKS PTR PAD C/L R/C DROP - CMOVE ;

SCREEN #38
 0 ( SCREEN EDITOR 12JUL82 LCT) BASE->R HEX  29 LOAD
 3 08 OF -1 +.CUR          ENDOF  0C OF +SCR          ENDOF
 4 0A OF C/L +.CUR         ENDOF  02 OF -SCR          ENDOF
11 DUP IF > OVER 7F < AND IF DUP EMIT DUP !BLK ELSE   7 EMIT
12 THEN   ENDCASE   AGAIN   ;  FORTH DEFINITIONS

SCREEN #41
 0 ( EDITOR REPEAT KEY ROUTINE Pete Korner 12/13/84)
 1 BASE->R DECIMAL      0 VARIALE MY
   2 : BLINK CURPOS @ DUP VSBR MY C!
   3 3 0 DO DUP 30 SWAP VSBW LOOP MY C@ SWAP VSBW ;
 4   4 CONSTANT W ( repeat speed) 30 CONSTANT X   ( delay )
 5   0 VARIABLE Y   X VARIABLE Z  0 VARIABLE OK
 6 : RKEY BEGIN ?KEY -DUP    BLINK BLINK
   7 IF Y @ 1 Y +! IF Z @ Y @ <
 8   IF W  Z !   1   Y !
   9 1 ELSE OK @ OVER = IF DROP 0
10   ELSE 1 DUP   Y !  THEN THEN
11   ELSE  1   THEN
```

```
ELSE  X   Z ! 0   Y !
0 THEN  UNTIL DUP OK ! ;  R->BASE
```

Incidentally, these modifications appeared in THE SMART PROGRAMMER some time back and I have found that they make screen editing with TI-Forth much easier and quicker than with the original editor in place. Until next month . .

SOFTWARE NEWS

by Herman Geschwind

"C" for the TI/99/A: Clint Pulley is now shipping Version 2.0 of the "c" compiler. The news version has been upgraded/improved as follows: Faster compilation, generating more efficient code. Correct pointer arithmetic. "For", "do/while" and "switch/case/default" constructs now possible. Initializers on global declarations. Meaningful error messages on screen. File I/O supporting all modes, including relative files. "printf", "fprintf" and "sprintf" formatted I/O functions. The capability of running from E/A simulators such as FUNLWRITER and BEAXS. Function libraries for graphic (character and bitmap), floating point, string manipulation, speech and alternate I/O library. The commendable part of Clint's upgrade is that for registered users the fee is $1.00 and two disks and a mailer. (The one time contribution to become a registered user is only $20.00). To quote Clint:" I feel quite strongly that your donation of $20 entitles you to the finished product. Please note that further monetary contributions are NOT expected." Truly a remarkable attitude in this day and time! I have placed my order for the update but already now I feel that Clint's effort has come a long way from the first release of "c" which was only a subset of the language and now we have a product which comes very close to the standard "c" language available for many other systems. Clint Pulley, 38 Townsend Avenue, Burlington, Ontario, Canada, L7T 1Y6.

Easy "c": This is really not a software product that you can buy but rather an article by Pete Orlin and John Heath which appeared in the May 1986 issue of BYTE magazine. What the authors address with "Easy'c'" is a simple but brilliant idea to make the transition to "c" easier for those of us with a background in BASIC programming who might find it difficult to adjust to the terse and seemingly arbitrary notation of "c". For instance to express equality in "c" calls for ==, so easy to forget for a seasoned practitioner of BASIC. Fortunately the "c" pre-processor (including Clint Pulley's 99/4A implementation) can re-define many things on the fly. The upshot is that Orlin and Heath have come up with a list of redefinitions which not only should make the transition to "c" easier but also will result in more readable code with the benefit that programs will be not only easier to write but much easier to debug. I have tested Easy "c" with version 1.3 of Pulley's compiler and with version 2.0 Easy "c" should be even more helpful.

From Basic to C: More on this subject. While there are many books about the "c" language, "From Basic to C" (by Harley M. Templeton, Compute! Publications, Greensboro, NC, $16.95) is unusual in that it presupposes that the reader has a good background of programming in BASIC and rather than waste a lot of time by going into programming concepts in general starts off by explaining the similarities between "c" and BASIC (of which there are many) and then guides the reader into the "c" world beyond BASIC. The book is well illustrated with examples of constructs both in BASIC and "c". While the book is written primarily for users of MS DOS machines, there are less than twenty pages in the book which are machine specific and not applicable to the 99/4A. Version 2.0 of the 99/4A compiler promises to match the implementation in this book very closely. I found this book to be most helpful to understand what "c" is all about. Pulley's documentation for the 99/4A compiler is terse and presupposes a familiarity with "c" which makes a book such as "From Basic to C" highly desirable.

Cataloging Library: Marty Kroll is now distributing Version V1.4 of this popular disk cataloging program. This program now features: Catalogs up to 123 disks & 900 files. Saves data for later listings, additions, or deletions. Reload data files without rebooting. For single drive systems: No need to switch disks until all additions/deletions are made. For multiple disk systems: Catalog from any drive. When adding disks, catalog is listed on screen. You have choice to add it or not. When adding disks, you are informed if diskname is already on file. If so you can: Replace old listing with new. Give new listing temporary name. Catalogs these "funny sectored" disks: Those that appear not initialized. Those that appear empty because of sector #1. Eliminates all non-printable characters from file & disk names. Replaces them with a period, since no legal filename uses it. This eliminates sending unwanted control codes to your printer. Print a standard format catalog of any disk on file, including funny sectored disks. Outputs the following to screen or printer: Summary of disks. Complete listing of files. Conventional catalog listing of any disk in the library. Complete catalog of all disks, disk by disk. Choose 1-3 columns of printer output. Send $3.50 for cost of disk & postage to Marty Kroll Jr, 218 Kaplan Ave, Pittsburgh PA 15227. Then if you use the program please send the author $10.00 for his time & effort. (Note: Cataloging

Library will works with the "Load & Run" option of FUNLWRITER).

waCky ComPuter tERms

by Terry Atkinson

ABORT: when the bus is full, the conductor shouts "all abort!"
ANSI: computer hacker who can't sit still
ARRAY: spontaneous exclamation by a hacker when something works for a change (rarely used)
ASCII: key to your girlfriend's apartment
BASIC: something so simple you need a computer to understand it
BAUD RATE: fee charged by loose women (usually $5 and up)
BIAS: said of Siamese twins, such as: "They've got a cute little...."
BI-DIRECTIONAL: a computerist who swings both ways
BUFFER: a nude hacker
BUFFER AMPLIFIER: one who brags about it
BUG: small German car popular in the 1960's
BYTE: short for BUY IT. Refers to how many peripherals to support a computer; there are 8 "buy it", 16 "buy it" computers
CHAIN PRINTER: one who can't stop printing
COMPUTER SCIENCE: the fastest growing voodoo art course in colleges
DATA: a nice Italian girl
DATA BASE: where she lives
DATA BUS: what she drives at work
DECREMENT: the crap you get from computers
DUMP: the best place for computers
EIGHT BIT CHIP: a one-dollar hooker
ELECTRONIC MAIL: Post Office jargon for anything delivered in less than a week
EXPANSION SLOTS: the extra holes in your belt
EXECUTION TIME: the time it takes to strangle the salesman who sold you the computer
FLOPPY DISK: serious curvature of the spine
GIGABYTE: painful sting on the Giga
HEAD-CRASH: a collision with a porta potty
HORIZONTAL SCROLLING: the missionary way
INCREMENT: what computers eat to produce decrement
INDUSTRY STANDARDS: non-conforming guidelines
INTELLIGENT: a hypothetical term used in computing
INTERPRETER: the person you take with you to the computer store to understand the salesman (usually a 12- year old kid)
JOYSTICK: a truncheon used by sadists
LIGHT PEN: a minimum prison sentence
LINE FEED: "I've never met anyone as interesting as you..."
MEMORY: part of a computer where data is placed before destruction
MULTIPASS: to try again before she turns you down again
MENU: an itemized list of ways to make a mistake on a computer
MNEMONIC: said of someone suffering from amnesia
NYBBLE: what an unsuspecting customer does to a line dangled by a salesman
PERIPHERAL: anything that costs a lot of money and can be remotely associated with computers
PLOTTER: computer salesman who spots you browsing during your lunch hour
PROGRAM: random accumulation of bugs
RAM: where most of the bugs are kept
ROM: where you put the bugs that don't fit in RAM
READ/WRITE HEAD: Men's room with invitational graffitti wall
ROUTINE: a program that never works the same way twice
SKEW: interface between two consenting computers
SKEW FAILURE: premature calculation
SMART TERMINAL: the one that gets you to buy it
SOFTWARE: what hackers wear under their hardware

Well, that's it for this time -feel free to send any that you've come up with.

FASTTERM REFERENCE

(Editor's Note: The following quick reference summary is helpful for use with Paul Charlton's FastTerm communications program. This was downloaded from the Durham TIBBS).

FAST-TERM REFERENCE CHART

NOTE: * denotes toggle

FUNCTION KEYS	FUNCTION/SHIFT KEYS	ADM3A CONTROL KEYS
B = Open name log file	T = Enable TE2 protocol	" = Enable protocol
Y = Clear the log file	X = Enable XMODEM "	H = Backspace
	P = Screen Dump (from freeze/wndw bck)	K = Up one line
N = Name file to be sent		L = Fwd one space
, = Send file		Z = Clear screen
		8 = Home cursor
0 = Freeze/Window back*	CONTROL KEYS	

The information below is for creating an overlay strip:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(0)
MODEM BAUD	PRINT * SPOOLER	M O D E M PARITY	M PORT	SERIAL PRINTER PARITY	PORT	BAUD			40/80 * COLUMNS
DELETE	DC4	SO	BRK	WINDOW>	ENQ	C O L O R TEXT	SCREEN	FREEZE * WINDOW BCK	

NOTE FOR OWNERS OF VERSION 1.16:

FUNCT-9 displays filenames (only) of disk in selected drive (not length and/or type of file)

Not shown, but active: FUNCT-QUIT