## TI NEWS by Gary Taylor

WERE BACK! After a pleasant summer break of 3 months, the Pittsburgh User's Group will meet on September 12, 1993 at the community room of the Whitehall boro building at 3:30 pm. I hope you have enjoyed the summer months as much as I have. For those of you who wonder where we have been, the club decided not to conduct meetings during the summer months. We had planned to publish at least one newsletter during the summer but our best plans did not materialize. Thanks to all the clubs that have kept us on their mailing lists, as I pick up the clubs mail and read each one of the newsletters to keep up to date on TI happenings.

Many things have happened in the TI world since our last meeting in May that need reporting. The first is the success of the Lima User Group Conference. Charles Good reported increased attendance from the previous year which indicates the importance and popularity of this TI gathering. We were able to copy around 40 disks from their library while we were there. All of them will be added to our library in time for the September meeting. Unfortunately, not all the disks that you selected from the update list provided by the Lima User Group were available at the time we made our copies. We missed 16 disks from the list. The trip to Lima and back was more enjoyable this time now that my teenagers like to drive. I was reminded that reservations are requested by the Lima group if a club needs table space at the conference as I failed to make our intentions to attend the conference known ahead of time. THANK YOU LIMA for providing space for us at the last minute. I picked up several new programs at Lima that will be handed out for review during the meeting. The new 40 column editor of Funnelweb version 5.0 was released at Lima. It had a bug in it that caused the console to hang when you exited from the editor. This bug has been fixed and Charles Good has sent us a corrected copy for our library. Those of you who picked up a copy at Lima will want to get the latest corrections.

Micropendium has recently raised their subscription rate for 2nd class mail delivery from $25 to $35 per year. This change became effective August 1, 1993. Loss of advertising revenue was cited as the main reason. There was much discussion in recent issues of the magazine about the need to raise rates so that it could continue being published, so it comes as no surprise that subscription rates went up. Subscriptions should be sent to Micropendium, PO Box 1343, Round Rock, TX 78680.

In our last newsletter, May 1993, I mentioned that there were two new memory expansion cards for the TI. I WAS WRONG! There is only one company making extended memory cards and that is Asgard Periperals/Software. The card was announced and sold at the 1992 Chicago Faire. I also voiced the opinion that since there wasn't any software for the card, what good was it.

As of this writing there are three software packages for the AMS cards.

1. First Draft 2.0 was released at Lima to take full advantage of the additional memory.

2. XB-Packer is a fairware program that lets you fill the AMS full of Extended Basic programs and jump back and forth between them.

3. Asgard has sent us Version 1.2 of the AMS Development system. This disk contains all the tools necessary to take advantage of the new memory system offered by the AMS and AEMS cards marketed by Asgard. It will be in our library, too.

Since Asgard is primarily a software company there should be plenty of new software to take advantage of the memory in the near future.

Asgard has released "Extended Basic 3", a new cartridge to replace the old extended basic cartridge. It runs programs 25/50% faster then with TI extended basic. It comes with a money-back guarantee and sells for $99.95 plus $2.50 S/H from Asgard Software, 1423 Flagship Drive, Woodbridge, VA 22192.

I received a new Summer of '93 catalog from TM Direct product Marketing. I will have it at the meeting to pass around.

~~~~ TI-101 ~~~~

OUR 4/A UNIVERSITY

by Jack Sughrue
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#5 McGUFFEY's

Before we spend a class on the TI textbooks I mentioned at the end of our last session, I'd like to mention McGUFFEY's ECLECTIC READERS from the 1890's. They were the major source of formal, academic learning for young scholars 100 years ago. Today's McGuffey is Don Shorock. Let's analyze a bit of Shorock's eclecticism of the 1990's.

Ms. Bronte. I already gave you his address in my notes three or four classes ago.

Very well. He can be reached for these educational goodies - mostly fairware (and let's hope I don't have to explain that again) at P.O.Box 501, Great Bend, KS 67530. Got that? Good. Now try not to interrupt with questions that have already been answered if you were paying attention during our other classes.

I'm going to be using the overhead for this lesson, as some of the intricacies of this educator's materials are fascinating and unusual.

Last session, Class, we had a couple questions from Mr. Shakespeare over there by the window. He said he had a nephew in junior high and two elementary school grandchildren. I think Mr. Shorock's eclectic disks will be of great help here.

First, let me mention that Mr. S has the most extraordinary data base structure built into his programs.

Second, let me put up the menu of his first disk on the overhead here. He has four educational fairware disks: EDUCATION #1, 2, 3, and INVENTIONS.

This is the first menu for #1:

a) AMERICAN PRESIDENTS
b) ENGLISH MONARCHS
c) ANCIENT GREEKS & ROMANS
d) JOYSTICK AMERICA
e) WORLD MILEAGE
f) STATES & CAPITALS (groups)
g) SOLAR SYSTEM
h) WORD MATH
i) GAGGLES OF GEESE
j) ESTIMATING TRIANGLES
k) FACTORING
l) AUDIO MATH
m) CATALOG
n) DOCUMENTATION
o) EXIT

There are 12 programs, plus a chance to look at the catalog from the disk, plus a chance to read all the documentation. By using the alphabet instead of numbers, he is able to have the menu items lined up perfectly (as "10" and beyond would push everything one character to the right). Very neat is our Mr. Shorock. If we pressed "a" for the President

program another menu appears, as you can see on this transparency:

    1) NAME YEAR
    2) NAME PARTY
    3) NAME PRESIDENT
    4) NAME STATE
    5) FOR QUIZ
    6) LEAVE (to go back to main menu, which is nice, and only "d" and "j"
are unable to within their activities)

    If, at this point, we press "1" and type in "1962" at the cursor, we
get the following:
    "Year #2 of the Presidency of John Kennedy; 35th President; Democrat of
Massachusetts; served 1961-1963."
    Typing "1963" would give both Kennedy and Johnson (who served from 1963
to 1969).
    Pressing "2" above will give you the listing of all the parties under
which our Presidents have served: 1) Federalist 2)Democratic-Republican
3) National Republican 4)Democratic 5)Whig 6)Republican. And choosing
"Whig," for example, will give you William Henry Harrison, 1841-1841;
John Tyler, 1841-1845; Zachary Taylor, 1849-1850; and Millard Fillmore,
1850-1853.
    When choosing NAME PRESIDENT and typing "John," you will get all the
Johns: Adams, Adams, Tyler, Kennedy with all their accompanying info. So
you can enter first OR last names and have the program seek out the
proper data for you.
    To enter STATE you must type in the full name, however, as the program
will not accept MA or MASS for MASSACHUSETTS. When you type that full
name, though, it will list its four Presidents and their biographical
sketches. Entering the name of a state with no President will give you
the cursor, just as typing in wrong info will.
    Now, when you have mastered this info, you will have the QUIZ (a yes/no
job): "Did Benjamin Harrison Rule in the year 1811? (No. His term, as we
all know, was from 1889-1893.) [I don't like RULED, however, which is the
reappearing term for SERVED that Mr. Shorock (probably a native of
England) keeps using: Did Ronald Reagan Rule in 1818? (No. That's right,
Class. Ronald Reagan RULED America from 1981 to 1989, though he may have
behaved as if he RULED America in 1818).] Actually, I just listed the
program and changed the RULE to SERVE, and it made the program so much
better in our Democracy. Particularly if this program will be used with
children.
    The English Monarchs and Ancient Greek and Roman programs are
structured similarly.
    I don't intend to go through each of his delightful program packages
for learners during our time today. Suffice it to say, Class, that you
can see the amount of work that goes into a program like this and, by
studying the program itself, the unlimited kinds of applications for
which one may use these programs.
    I would, however, like to delve into a couple of completely different
educational programs here. WORD MATH deals with addition, subtraction,
multiplication, and division as the bane of all elementary and junior
high students: Word Problems. The answers may be typed as "SEVENTEEN" or
"17," as in this problem: "Ellen has nine dandelions and Kent has eight
marigolds. How many flowers do Ellen and Kent have altogether?" At the
menu you may choose specific processes (addition) or all. A running
score is kept (as with most of Shorock's games and quizzes), and a wrong
answer is corrected and explained. At the end of this program a flashy
countdown in words from 100 to 1 takes place, using the TI's built-in

wonders, and more options are given, including continuing the game.
   JOYSTICK AMERICA is a geography game. Kind of a precursor, in a
philosophical way, to Mr. S's highly successful AIR TAXI, his commercial
venture which is a geographical masterpiece. I understand, Class, that
he has a further development on even that one. When you write to him,
ask. But J.A. has a golf-like scoring system. You're given a par (how
many moves it <u>should</u> take you) to go from a random starting point in
America (say Western Tennessee) to a random destination (say Ohio or
Indiana). As you must move north and east in 3 moves here, you can judge
how you are doing by the constantly updated "current location." Complex
structure, simple execution.
   Although we've analyzed just three learning activities on the first
disk, you can already see that directions are kept to a minimum,
partially through superb sub menus; the structure is simple: the pathways
direct; the learning concrete; the adaptive possibilities endless.
   A quick look at the transparency of Disk 2's menu (of math and
geography activities only) will show you how Mr. S jampacks these SSSD
disks:

GEOGRAPHY GAMES
0) North American Cities (comparisons: which is further north? west?)
1) Largest Cities (Chicago is the largest city in what state?)
2) World Capitals (multiple choice)
3) US Mileage (which is closer / how far is it to?)
4) Map: Eastern US (does Maine touch Vermont?)
5) Map: Europe (does France touch Luxembourg?)
6) Map: Latin America (does Equador touch Chile?)
MATH GAMES
1)Patterns (math drill with wallpaper graphics)
2) More or Less (greater and lesser numbers)
3) Roman Numerals (teach, convert, quiz)
4) Chinese Numbers (teach, convert, quiz)
5) Tardis (strictly for us Dr. Who fans;requires SS and TEII)

   PATTERNS is a flash-card-type arithmetic drill (3+17, 21X65, 14-11) on
a solid background pattern that does not scroll when foreground "work
area" does. The "wallpaper" changes and provides a nice 3-D effect.
Score is kept as you go along; correct answers are given; a total is
displayed at the end of each 10 questions before a new quiz with a new
largest amount total being input again. Some toots and whistles here,
also. Not a negative program.
   CHINESE NUMBERS has three menu options: T - Teaches Chinese numbers
(graphically) from 1 to 9999; I - Interprets by translating any Arabic
number of your choice into Chinese; Q - Quiz Giver lets you set the
maximum amount and gives you 10 problems to solve, scores, and autoloads
at end. Like so many of the Shorock activities, it is easy to get back
to any part of the program (but not in some of these cases to get back to
the main disk menu).
   WORLD CAPITALS has a wonderful menu that includes 1) Latin America 2)
Europe 3)Africa 4) Asia 5) Oceana 6) Entire World 7) TI Answers (instead
of asks) 8) Show Off Everything 9) New Player (instead of the person who
typed name at beginning of game, as this will give game competition
opportunities)
   I wanted to add one thing here, Mr. Shakespeare, if you use these disks
with your young relatives. This program, unfortunately, sometimes
repeats questions back to back (and to back again, in some cases) within
the 10-question activity. This should've been eliminated. That sort of
problem does appear in some of these other activities, too.

However, Class, a great opportunity to learn all those new former Soviet Union and other Eastern European and Western Asian countries would be to change this program to include just these "new" countries for flash-card learning. Mr. Shorock has made a great base into which it is fairly easy to plug new data.

I see people peering at their watches. Before we go today and before I assign homework, I have a couple more overhead transparencies to show you, such as this projection of the menu from Education Disk #3: Misc.:

```
A - STATES 50
B - SEMAPHORE SIGNALING
C - FAMOUS PHILOSOPHERS
D - FAMOUS COMPOSERS
E - CHEMICAL ELEMENTS
F - GEOLOGY TERMS
G - CANADIAN PROVINCE CAPITALS
H - MEXICAN STATE CAPITALS
I - FLAG QUIZ & DEMO
J - PRES.   INAUGURAL DATES
K - SUBJECT/VERB AGREEMENT
L - SHORTWAVE TUNING SIGNALS
M - JULY 4TH DEMO
N - CATALOG
O - DOCUMENTATION
P - EXIT
```

When I look at FAMOUS COMPOSERS, Class, I'm reminded of the time a group of music historians dug up Beethoven's grave. When they opened his coffin, up popped Beethoven, shouting, "What is the meaning of this? Can't you see I'm busy decomposing?"

L is interesting. The signature tunes which are played by different countries before they begin their shortwave broadcasts are played (Switzerland, Canada, Kuwait, South Africa, etc.). Once learned, there is a quiz, of course.

After all the playing and using and trying and testing, I finally found an error, Class. In STATES 50 the program says New Hampshire does not touch Massachusetts. It does. Not bad. One small mistake in four jampacked disks of educational programs.

Most of the programs I think you can figure out from the titles. Now this last overhead. Has two menus shown on it: the main and the one by pressing 3 on the main:

```
1) USE PROGRAM
2) PRINT DOC
3) LOOK AT DOC
4) SEE DISK CATALOG


   1) A word about Fairware
   2) Why I wrote this program
   3) How to use this program
   4) Programming techniques
        segmented array items
   5) Programming techniques
        randomly filled array
   6) How LOOK AT DOC works
        you may leave docs
        for menu any time
```

From these menus you can see, Class, that these educational programs by the McGuffey of the 1990's are not just for children. The things you can learn about programming and data structuring from the INVENTIONS disk, alone, is worth the price of admission; which, being Fairware in the TI Marketplace is always the best buy in the computer world. So, if you are like Mr. Shakespeare or Mr. Bell over there who are always looking for educational materials for youngsters or even like Ms. Bronte who always wants to get some adult learning materials, you would all be wise to order these disks right away from Mr. Shorock. They are not available in the campus bookstore. Send what you think is a fair amount for each of these disks ($5 to $10 per disk would certainly be fair, particularly when you know what is charged for commercialware elsewhere) and help yourself or your young learners in ways that the original McGuffey never dreamed of.

There will be items from each disk on the final.

No, Mr. Shakespeare, Mr. Shorock is not the only person or company making educational materials for the TI. Chris Bobbitt's ASGARD SOFTWARE (P.O.Box 10306, Rockville MD 20850) and Ken Gilliland's NOTUNG SOFTWARE (7647 McGroarty St., Tujunga CA 91042) are two companies that still put out various kinds of educational materials, too, and their catalogs are free.

And don't forget Jim Peterson's TIGERCUB SOFTWARE (154 Collingwood Ave., Columbus OH 43213), the very best source for excellent, inexpensive, very specific educational software on disks, including more adult learning materials for you, Ms. Bronte. The $1 catalog fee is redeemable with your first order.

But your homework, Class, is to look through all your disks and cassettes (which we'll discuss the class after next) and search for the 10 most educational items you can find — the best; ones you personally feel are the most educational, that do the learning task successfully. Bring them to class next time and be prepared to give 5-minute talks on why you chose these 10.

If you belong to a user group, have everyone in the group do the same and put together some master educational disks and cassettes. This could be a great service to all the newtimers coming into our TI World Community.

FUNNELWEB TIP

A real time saver for people who use the TI Writer Formatter of Funnelweb. You can do a disk directory while in the editor and mark a file so that you do not have to retype in the DSKx.FILENAME. This a big help if you can't remember the file name. If you do a disk directory while in the Formatter, apparently you can not mark the file, so if you want to mark the file you have to enter the Editor, do a disk directory, mark the file, exit the Editor, re-enter the Formatter. This is very clumsy and slow if you are not using a RAM disk. The trick is while in the Formatter, do a disk directory (Fctn 7). Arrow down to the file you want. Press the space bar, which places an invisible mark on the file. Press <ctrl> - to return to the Formatter, then press <fctn> D (right arrow) to the place for the new file name in the Formatter mail box. The name of the file you marked will automatically appear. This saves the time of repeatedly loading the Editor and Formatter just to mark files. This super for people who are intimidated by long filenames and can not remember, was it DOCS or -DOCS- or -READ-ME- or *README*. Reprinted from the Spirit of 99 Newsletter.

## THE FORGOTTEN COMPUTER
or
### How a TI99/4a found new life in a Day Care Center

by Gary Kuehn
Pittsburgh Users Group

How many of you have an extra 99/4A console and speech synthesizer? Is it sitting around gathering dust, or in a closet on some forgotten section of a shelf in a dark part of the house? How many of you thought that someday you would get the console out, and give it to someone who could use it? Or even use it to teach your children spelling or math or reading. How many of you thought about using the console for a project that you wanted to work on, but you didn't want to tie up the 486 with 5megs of memory on a little basic programming. Even if you felt like trying to use basic on the PC, that is if you knew how to find it? How many of you thought about these things then decided to forget about it because it was too much work to cable up the TI, then find a TV that wasn't being used by anyone, locate a quiet room to work in , and dig out the old basic manuals? If you find yourself in any of these categories then read on........

I found myself with an extra console gathering dust and decided to put it to use in our neighborhood day care center. I mentioned to the director that I had an extra computer at home. Since it wasn't being put to use I offered to set it up in the center with some learning programs to see if the children would use it and she thought it was a good idea and agreed.

Being a smart business woman and always looking for freebies and thinking a computer was an IBM or clone, she naturally thought of all the things she could do with it.

When I showed up with a console, a speech card, a few cartridges, a bunch of cables, and an old monitor, she was a little worried if an old useless computer like this would fit the bill at all.

Calmly I hooked up all the wires, plugged in the power leads, set the monitor for the right settings, turned it on , plugged in a cartridge and said "try it out." Well, once the director saw the beautiful colors and saw how easy things were to use, she changed her mind about this old computer. Then the strangest thing happened, the computer started talking to her and now she was hooked on the TI, just the same as all of us were so many years ago, using all the games and cartridges that we could find to discover the power of our machine.

Now children use it regularly for learning to read, count, spell and do math. If we can find another old monitor, I know where there is another console with speech to pass to the day care center so more kids can rediscover the TI and the magic that we all learned about long ago and are still learning about today. Each day the 3, 4 and 5 year olds have computer class and go and use the TI. With the speech card the TI becomes a tool for very young children to use that is at their level of learning.

If you have an extra console and are looking for someone to use it, think about my experience and perhaps you can pass it along as easy as I did.

## TIPS FROM THE TIGERCUB

### No. 69

Tigercub Software
156 Collingwood Ave.
Columbus, OH 43213
$$$$$$$$$

My three Nuts & Bolts disks, each containing 100 or more subprograms, have been reduced to $5.00 each. I am out of printed documentation so it will be supplied on disk.

My TI-PD library now has almost 600 disks of fairware (by author's permission only) and public domain, all arranged by category and as full as possible, provided with loaders by full program name rather than filename, Basic programs converted to XBasic, etc. The price is just $1.50 per disk(!), post paid if at least eight are ordered. TI-PD catalog #5 and the latest supplement is available for $1 which is deductible from the first order.

In Tips #68 I published my solution to Dr. Ecker's challenge to alternately assign X the value of A and B without using IF...THEN or any outside help. Computer Monthly has arrived again and his solution is better than mine. Try it with any two numbers -
100 A=2.765 :: B=-10
110 X=A+B-X :: PRINT X :: GO
TO 110

There has been controversy for years as to whether the TI's psuedorandom number generator is truly random. Dr. Ecker's "Computer Fun & Learning" column in Computer Monthly had a question - if you randomly generate numbers between 0 and 9, how often will you get the same number twice in succession? Three times in succession?

And etc. Since there are 10 numbers to choose from, it seems to me you would get 2 in a row 10% of the time, 3 in a row 1% of the time, 4 in a row .1%...etc. I wrote this to prove it -

```
100 RANDOMIZE
110 C=C+1 :: X=INT(RND$10)::
PRINT X;:: IF X=F THEN FL=F
L+1 :: CL(FL)=CL(FL)+1 :: PR
INT ""iFL;"="iCL(FL):"C="iC:
"X="iCL(FL)/C :: GOTO 110 EL
SE FL=0 :: F=X :: GOTO 110
```

After 10,000 tries, I had 2 in a row 8.75% of the time and 3 in a row .83% and 4 in a row .07% . Does that prove anything? I don't know.

(Dr. Ecker points out that those percentages could not ever quite add up to 100%!)

Here is another of my XBasic programs to write assembly source code -

```
100 DISPLAY AT(2,1)ERASE ALL
:"ASSEMBLY HELP SCREEN WRITE
R":"":" This program will wr
ite the":"source code for an
 assembly":"routine which ca
n be linked"
110 DISPLAY AT(7,1):"from Ex
tended Basic to dis-":"play
any one of several help":"sc
reens at any designated":"ke
y press or input at any":"po
int in a program."
120 DISPLAY AT(12,1):" The o
riginal source code,":"autho
r unknown, was improved":"by
Karl Romstedt and further":
"modified by Bruce Harrison.
"
130 DISPLAY AT(20,1):"How ma
ny help screens?" :: ACCEPT
AT(20,24)SIZE(1)VALIDATE(DIG
IT)BEEP:N
140 FOR J=1 TO N :: H$=H$&"H
ELP"&STR$(J)&"," :: NEXT J :
: H$="" :: DEF H$=SEG$(H$,
1,LEN(H$)-1)
150 DATA VMBW    EQU  >2024,V
MBR   EQU  >202C,KSCAN EQU
>201C,STATUS EQU  >837C
160 OPEN #1:"DSK1.HELP/S",OU
TPUT :: PRINT #1:H$ :: FOR J
=1 TO 4 :: READ M$ :: PRINT
```

#1:M$ :: NEXT J
```
170 FOR J=1 TO N :: H$="HELP
"&STR$(J):: PRINT #1:H$&" L
WPI WS":"      LI R13,HEL
PB"&STR$(J)
180 IF J<N THEN PRINT #1:"
JMP  SAVSCR"
190 NEXT J :: H$=RPT$(" ",7)
200 PRINT #1:"SAVSCR CLR RO
":H$&"LI   R1,SAVIT":H$&"LI
R2,768":H$&"BLWP @VMBR":H$
&"LI   R9,NEWSCR":H$&"MOV R
9,R1":H$&"MOV  R2,R4"
210 PRINT #1:H$&"LI   R3,>60
00":"ADDOFF MOVB @R13+,@R9":
H$&"AB   R3,@R9+":H$&"DEC R
4":H$&"JNE  ADDOFF":H$&"BLWP
@VMBW"
220 PRINT #1:"KEYLOO BLWP @K
SCAN":H$&"BLWP @KSCAN":H$&"C
B    @ANYKEY,@STATUS":H$&"JNE
KEYLOO"
230 PRINT #1:"REPL   LI   R1
,SAVIT":H$&"BLWP @VMBW":"RET
N  LWPI >83E0":H$&"B    @>
A"
240 PRINT #1:"WS     BSS 32
":"SAVIT BSS 768":"NEWSCR
BSS 768":"ANYKEY BYTE >20":
H$&"EVEN"
250 DISPLAY AT(3,1)ERASE ALL
:" Enter data just as you's:"
want it to appear, in 24":"l
ines. Press Enter for blank"
:"lines."
260 FOR J=1 TO N :: DISPLAY
AT(12,1):"Ready for screen #
"&STR$(J)""::"Press any key"
270 CALL KEY(0,K,S):: IF S=0
THEN 270 ELSE CALL CLEAR
280 ACCEPT AT(1,0):H$ :: PRI
NT #1:"HELP$"&STR$(J)&" TEXT
' "&H$&RPT$(" ",30-LEN(H$))
&" "
290 FOR K=2 TO 24 :: ACCEPT
AT(K,0):H$ :: PRINT #1:H$&"T
EXT ' "&H$&RPT$(" ",30-LEN(H
$))&" "
300 NEXT K :: NEXT J :: PRIN
T #1:H$&"END"
310 DISPLAY AT(3,1)ERASE ALL
:" Source code has been writ
-":"ten to DSK1 as HELP/S. T
o":"assemble, insert Editor/
":"Assembler module."
320 DISPLAY AT(7,1):"Insert
Assembler disk in   drive 1
.":"Select 2 ASSEMBLER":"Loa
d Assembler? Y":"Source file
name DSK2.HELP/S"
```

330 DISPLAY AT(12,1):"Object
 file name? DSK2.HELP/O":"Li
st file name? Press Enter":"
Options? R"
340 DISPLAY AT(15,1):"Load t
he resulting object":"File i
nto your program by":"CALL I
NIT ::":"CALL LOAD("DSK1.HE
LP/O"") or,"
350 DISPLAY AT(19,1):"much b
etter, imbed it with":"ALSAV
E or SYSTEX."
360 DISPLAY AT(21,1):"Access
 the screens in your progra
m by":" CALL LINK(""HELP1"")
":"CALL LINK(""HELP2""), etc
."
370 CALL KEY(0,K,S):: IF S=0
THEN 370 ELSE CALL CLEAR

For instance, at any point in a program where keyboard input is required and user may not know what to do - ACCEPT AT(24,1):H$ :: IF H$= "HELP" THEN CALL LINK("HELP1 ") and the first help screen will pop up to give instructions. Press any key and the previous screen reappears.

This time I am borrowing heavily from the TIMES newsletter of England, which has also borrowed from the REC newsletter.

This one is useless, but is a remarkable example of compact complex programming. It shows that there is an algorithm for everything. See if you can figure out how it works -

```
100 CALL CLEAR :: FOR A=1 TO
 2 :: FOR B=1 TO 4 :: X=2-AB
S(SGN(B-3))::FOR C=1 TO X :
: PRINT CHR$(84-7#A+5#B-8#B)
:: NEXT C,:: NEXT B :: PRIN
T CHR$(A+31):: NEXT A
```

Another useless one that is easier to figure out -

```
100 DISPLAY AT(1,1)ERASE ALL
:"NUMBER OF MONTH(1-12)"
110 ACCEPT AT(2,12)SIZE(2)VA
LIDATE(DIGIT):A :: IF A<1 OR
 A>12 THEN 110
120 DISPLAY AT(3,1):A;"x 4="
```

```
|A$4 :: A=A$4
130 DISPLAY AT(4,1):A;"+13="
;A+13 :: A=A+13
140 DISPLAY AT(5,1):A;"x 25=
";A$25 :: A=A$25
150 DISPLAY AT(6,1):A;"-200=
";A-200 :: A=A-200
160 DISPLAY AT(8,1):"Input d
ate (1-31)?" :: ACCEPT AT(8,
19)SIZE(2)VALIDATE(DIGIT):B
:: IF B<1 OR B>31 THEN 160
170 DISPLAY AT(10,1):A;"+";B
;"=";A+B :: A=A+B
180 DISPLAY AT(11,1):A;"x 2=
";A$2 :: A=A$2
190 DISPLAY AT(12,1):A;"-40=
";A-40 :: A=A-40
200 DISPLAY AT(13,1):A;"x 50
=";A$50 :: A=A$50
210 DISPLAY AT(15,1):"Input
last two digits of   year a
g 91:"
220 ACCEPT AT(16,16)SIZE(2)V
ALIDATE(DIGIT):B
230 DISPLAY AT(18,1):A;"+";B
;"=";A+B :: A=A+B
240 DISPLAY AT(19,1):A;"-105
00=";A-10500 :: A=A-10500
250 DISPLAY AT(24,1):"ANY KE
Y FOR ANOTHER"
260 CALL KEY(5,A,B)
270 IF B<1 THEN 260
280 RUN
290 END
```

One for the little ones -
change the string to any-
thing you want.

```
1 REM SILLY PROG BY S SHAW
  MARCH 1991
2 ! did you see COMPUTER WAR
S-the film? It is said that
the star, who was required t
o type fast into a computer
3 ! could not type, so a pro
gram just like this one was
used to give a good effect!
4 ! now adjust it how you wi
sh and show your friends how
 fast you can type
5 ! at end of text string pr
ogram will just stop with th
is listing but can be modifi
ed to do anything you wish!
6 !
100 A$="This is how a non-ty
pist canproduce information
on      screen quickly,witho
ut       "
```

```
110 A$=A$&"having to look at
 what keys are being bashed!
 Just bash keys and watch ho
w perfect  text appears no m
atter what you press."
120 CALL CLEAR :: PRINT A$;
: : : : :
130 CALL KEY(5,A,B):: IF B<1
 THEN 130
140 C=C+1 :: PRINT SEG$(A$,C
,1);:: IF C=LEN(A$)THEN 160
150 GOTO 130
160 GOTO 160
```

And a very fast routine to
find prime numbers -

```
100 ! FIRST 100 PRIMES
    -QUICKLY-
110 ! Dr H B Phillips
  from THE REC NEWSLETTER
March 1988  Vol 3 #2
120 DIM P(300),X(12)
130 A=0 :: B=1 :: D=0.5 :: E
=180
140 M=100 :: L=3 :: F=0
150 ! increase M for more- a
lso increase DIMs.
160 PRINT 2;:: C=B :: IF B=B
 THEN END
170 L=INT((M/C)$L+F):: M=L+L
+B
180 FOR I=B TO INT((SQR(M)-B
)$D):: PP=P(I)
190 IF PP=B THEN 230
200 IF PP=A THEN PP=I+I+B ::
 PRINT PP;:: P(I)=PP :: C=C+
B :: IF C=M THEN END
210 IF X(I)=A THEN X(I)=(PP$
PP-B)$D
220 FOR J=X(I)TO L STEP PP :
: P(J)=B :: NEXT J :: X(I)=J
230 NEXT I :: IF F=0 THEN S=
I
240 FOR I=S TO L
250 IF P(I)=A THEN PP=I+I+B
:: PRINT PP;:: P(I)=PP :: C=
C+B :: IF C=M THEN END
260 NEXT I :: F=(M-C)$L/E ::
 S=L+B
270 GOTO 170
```

And a demonstration of how
the  INTERRUPT routine works
independently  of whatever
else the computer is doing -

```
100 REM interrupt demo
110 REM
120 REM MACHINE LANGUAGE
130 REM ROUTINE LOADED AT
140 REM >2600 XB OR E/A WITH
 32K
150 REM >7200 MINI MEM NO 32
K
160 REM
170 CALL INIT
180 XM=9720
190 MM=29184
200 LAD=XM
210 REM TEST XB OR MM?
220 CALL LOAD(XM,170)
230 CALL PEEK(XM,X)
240 IF X=170 THEN 270
250 REM NO 32K MUST BE MM
260 LAD=MM
270 A=LAD
280 REM LOAD M/C
290 CALL CLEAR
300 FOR D=540 TO 630 STEP 10
310 CHECK=0
320 FOR N=1 TO 10
330 READ X
340 CALL LOAD(A,X)
350 CHECK=CHECK+X
360 A=A+1
370 NEXT N
380 READ X
390 IF CHECK<>X THEN 490
400 NEXT D
410 REM POKE INTERRUPT
420 REM ROUTINE ADDRESS
430 REM INTO >83C4
440 CALL LOAD(-31804,LAD/256
)
450 REM JUST IDLE AWAY TIME
460 FOR N=1 TO 9940
470 NEXT N
480 STOP
490 PRINT "ERROR IN DATA STA
TEMENT ";D
500 STOP
510 REM EACH DATA STATEMENT
520 REM HAS 10 DATA BYTES
530 REM PLUS A CHECK SUM
540 DATA 192,236,000,072,004
,194,005,131,002,131,987
550 DATA 000,060,026,003,004
,195,006,236,000,094,624
560 DATA 203,003,000,092,060
,172,000,090,006,002,628
570 DATA 017,015,019,010,006
,002,019,004,002,000,94
580 DATA 002,039,010,083,016
,002,002,000,002,086,242
590 DATA 096,003,016,007,002
,000,000,119,010,083,336
600 DATA 016,002,002,000,000
,072,160,003,002,096,353
610 DATA 064,000,006,192,215
```

```
,192,006,192,215,192,1274
620 DATA 016,000,216,044,000
,094,140,000,004,091,605
630 DATA 000,015,000,000,138
,128,008,000,000,000,281
640 END
```

Run that, then press FCTN
4. Enter LIST. Enter MEM. To
stop it, enter BYE.

This is an oldie, but well
worth repeating. You can use
it to turn your cassette re-
corder  on  and  off, to add
speech or music from tape to
a  running program. With the
proper  hardware,  you could
write  a  program to control
almost  anything   from  the
cassette port. If it doesn't
work,  reverse  the polarity
of the remote. Ed Hall wrote
this -

```
100 CALL INIT
110 CALL LOAD(16368,79,79,79
,32,32,32,36,252)
120 CALL LOAD(16376,79,79,32
,32,32,32,36,244)
130 CALL LOAD(8194,37,4,63,2
40)
140 CALL LOAD(9460,2,12,0,45
,29,0,4,91,2,12,0,45,30,0,4,
91,203,78)
150 PRINT "PRESS":" P Play":
"S Stop"
160 CALL KEY(3,A,B)
170 IF B<1 THEN 160
180 ON POS("PS",CHR$(A),1)+1
 GOTO 160,190,200)
190 CALL LINK("ON"):: GOTO 1
60
200 CALL LINK("OFF"):: GOTO
160
```

And that is just about -

MEMORY FULL!

Jim Peterson

THE PUG MEETS
ON THE 2ND SUNDAY OF THE MONTH
AT WHITEHALL BOROUGH COMMUNITY ROOM
100 BOROUGH PARK DRIVE
WHITEHALL, PA.

CLASSES BEGIN AT 3PM
GENERAL MEETING BEGINS PROMPTLY AT 5PM

| SEPT 1993 | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
| | | | | | | |
| 5 | | | | | | |
| 12 | MEETING | | | | | |
| 19 | | | | | | |
| 26 | | | | | | |
| | | | | | | |

| OCT 1993 | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
| | | | | | | |
| 3 | | | | | | |
| 10 | MEETING | | | | | |
| 17 | | | | | | |
| 24 | | | | | | |
| 31 | | | | | | |

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| Cor. Sec.: | Gary Taylor | 412-341-6874 |
| NL Editor: | Audrey Bucher | 412-881-5244 |

### SCHEDULE

3PM....SET UP

4:00PM.......

6-8PM MEETING

DUES $15/YR

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*NOTE: NEXT NEWSLETTER IN NOVEMBER!!*

PUG BBS
412-885-3483
300/1200/2400 BAUD
24 HOURS