WORDPLAY

The PUNN Newsletter Portland, Oregon

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What's Inside

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MURPHYS RULE:
It is usually easier to cope with out-and-out enemies than it is to deal with deceptive friends.

From the President

During the past couple of months I have been fortunate enough to be able to attend the South West 99'er Fair, held in San Diego, California and the West Coast Computer Faire, held in San Francisco. Both events gave me good reason to think there is still lots of life in our machines.

At the San Diego show, there were lots of software and hardware vendors and over two hundred attendees. The show was spread over two days, which may have been a little long, but gave plenty of opportunity to talk to everyone there, if you wanted to. Many of the vendors were from all over the country and there were representatives from quite a few different Users Groups. I met a a member of the Boston Computer Society's TI ..., Barry Traver from Philadelphia, and so on. It was a a lot of fun and I sure recommend it to anyone who has the chance. I saw some nifty software and although no new hardware products were in evidence, there is lots of ideas floating around out there, so I wouldn't give up on that idea, either.

The West Coast Computer Faire, in San Francisco used to be the premier "hackers" show, but has grown into a very commercial operation now. There were still lots of Mac User Groups, IBM User groups, Commodore User Groups and, oh yeah, even a TI-99/4A User Group. I was in San Francisco on company business, but the show dovetailed nicely so I was able to stay over for it.

In my hotel room on Friday evening, I was catching the latest news, when the station ran a news spot about the Computer Faire. Much to my surprise and delight, the person they were interviewing was the Vice President of the San Francisco 99er's, and the UG's name was prominently displayed on the TV for a minute or so. I'll be surprised if their membership doesn't go up after a nice little shot like that! During the show on Saturday it really did me good to drag my Macintosh-driving buddy, Vince, around to the TI booth. Just to let him know there are alternatives to very expensive machines! I doubt that he was terribly impressed, but nonetheless I enjoyed it.

If you have a friend with a TI who hasn't been to a meeting lately, get hold of them. Bring them by to a meeting. Fresh ideas are welcomed and who knows, they might even gain something valuable in the process.

Al Kinney

News and Views

The board meeting was held at the home of Mike Calkins. thanks Mike and Ron for the ice cream and strawberries- - -Next board meeting will be at Chuck Ball's home- - -Norm Minks and his volunteers are hard at work compiling the Micropendium catalog and it will be available to all members- - -If you come upon a program that might be of interest to other members you are encouraged to download it to the BBS or give it to the Librarian so others can benefit- - -Watch the date on your mailing label, as that is the time to pay your dues- - -Mike Calkins reports that new books have been added to the Hard Copy Library and are available for check-out- - -The PUNN annual picnic is planned for Tuesday, August 1- - -For those that missed the previous picnics, this event is fun for the whole family- - -It will be at the same place this year, Milwaukie Elks picnic grounds- - -PUNN has recently added two additional exchange newsletters, The Chicago Times and the Boston Computer Society- - -Both of these newsletters contain excellent material for the TI-99/4A- - -They along with other exchange newsletters are available from the Hard Copy Library- - -Is anyone interested in a particulay program or workshop?- - -Chuck Neal, our Workshop Chairman and Ted Peterson, our Program Chairman want to hear from you- - -Ashley Read was the winner in the program contest last month- - -Watch for a new contest next month- - -Don Barker is busier than ever these day with the Merchant Marine Veterans Association- - -Ron Mayer thought he was retired, but is working several days a week at a Post Office sub-station- - -your editor is retired too, but works on several half days for his son-in-law's business- - -If you have news of yourself or others this is the column for it- - -

Computer Banking

(NOTE: The following article was written by Duane Goodman, a former member of PUNN. Duane is now involved in another computer but still finds time to contribute.)

Having been interested in "Computer Banking" for some time now, I was very pleased to get a chance to try it-even if in a small way. This occurred when my wife was able to join the Oregon Central Credit Union (OCCU) thru her place of employment.

One of the options OCCU has for their account holders is the ability to manipulate your account(s) either thru the phone system via a touch-tone phone or with a personal computer.

What follows is a transcript of my interaction with the "CONNEXUS" computer system at OCCU.

Welcome to CONNEXUS

If you need help type a "?" followed by a RETURN/ENTER in response to an inquiry.

For help with a transaction type a "?" followed by the transaction code. This will display some text on your terminal.

To back up to a previous inquiry type a "-" followed by a RETURN/ENTER in response to an inquiry.

To return to the OPTION inquiry or to cancel a transaction type a "+" in response to any inquiry.

To exit program before you have logged on, enter a "Q" when asked for an account number or PIN.

Your time is limited to 5 minutes.

```
Enter Your Credit Union ID:
1
Enter Your Account Number:
0[illegible]
Enter Your Personal ID Number:
****
Data Sent to Host.. Waiting
Option:
```

OPTIONs

```
Option Description
Code of Action

BI Balance Inquiry
TR Transfer of Funds
LP Loan Payment
LT Loan Advance
WD Withdrawal Request
DR Cleared Draft Inquiry
DP Last Deposit/Payment Inquiry
MT Member To Member Transfer Request
MP Member To Member Payment Request
EX Terminate your call, hangup
Press Return/Enter to Continue
```

Enter the code for the action to be to be performed.

```
Option: BI
----------Shares----------
01    $100.00
75    $100.00
Press Return/Enter to continue:
----------Loans----------
NONE
Press Return/Enter to continue:
----------CD's----------
NONE
Option: DP
Data Sent to Host.. Waiting
Transaction Complete
----------Deposit(s)----------
01    $100.00   01/09
75    $100.00   01/09
----------Payment(s)----------
Option: DR
Enter Share Account: 75
Data Sent to Host.. Waiting
Transaction Complete
-----Cleared Share Draft(s)-----
0186  $ 12.00   01/06
0185  $  9.97   12/28
0184  $ 51.33   12/28
0183  $ 17.33   12/28
0181  $399.00   12/21
0182  $ 26.25   12/20
0180  $ 45.61   12/12
0177  $113.50   12/12
0179  $ 15.95   12/09
0178  $ 13.00   12/08
0176  $ 13.41   12/06
0175  $ 35.60   12/06
0174  $ 13.00   12/02
0173  $ 19.85   12/01
0172  $  6.75   12/01
Option: EX
Thank you for calling CONNEXUS.
Good-bye.
```

As you can see, you need an account with OCCU before you are able to access the computer system. To find out if you are eligible to join OCCU here is the phone #: 239-5320. After you get your account set up you can apply for a Personal ID Number (PIN). A couple of weeks later you will receive your account # and PIN for use with the CONNEXUS system.

As you can see from the list of options, this is not a full blown system that you find available in some of the larger cities. Lets go thru the options.

BI: lets you see the balance of your savings (account 01), your checking account (75), your loans, and your CD's.

TR: Lets you transfer funds from one account to another.

LP: Loan payment should be self explanatory.

LT: Loan advance. If you have a pre-approved line of credit, you can request a loan without ever leaving home.

WD: Withdrawal Request. If you are back to visit Aunt Minnie for a couple of months and need some cash, use this option to have OCCU send you a check. Of course you must have the funds available in one of your accounts.

DR: Cleared Draft Inquiry. If Aunt Minnie can't remember if she cashed your check or lost it, this is a quick way to find out. As you can see from the list it gives you the check #, the amount, and the date the check cleared OCCU.

DP: Last Deposit. Allows you to see to which account, the amount, and the date the deposit was credited.

MT: Member to member Transfer Request. Feel free to use this option to transfer all your money into my account!

MP: Member to Member Payment Request. (See MT: above)

EX: Terminate your call, hangup.

As mentioned above, this system will not let you do some of the things that are available in cities such as New York, or LA.; such as have a list of creditors that you tell the bank when and how much to pay. Nor will it allow you to transfer funds between two different institutions.

But, it will allow you to deposit your money into your savings or CD account and then transfer the funds when you are ready to use them and not before, thus allowing you a few more cents of interest for Uncle Sam to tax.

The above exchange, when set up thru an auto-loging modem or thru your software which allows you to write a script file for log-on response, takes an average of 45 seconds (at 1200 baud) from the "Welcome" to the "Good-bye" at the end.

All in all, its a fun and painless way to do your banking.

DF 128 - DV 80

Many of you may be aware of this little program, but there may be others who do not know of this important file transfer. As your editor I had downloaded a file that was uploaded from another computer and was having some difficulty transferring a DIS/FIX 128 file to a DIS/VAR 80 file so it could be included in WordPlay. (See Duane Goodman's article in this issue.)

Al Kinney had the program in his files and with it I was able to transfer the article with ease.

We are lieting the program here, it is easy to type in, however you may still find it on the BBS.

```
100 REM
110 REM CONVERT BINARY FILES
120 REM  TO ASCII (ETC...)
130 REM (D/F128 -) D/V80)
140 REM (D/V80  -) D/F128 )
150 REM
160 REM Paul Charlton
170 REM 11/7/85
180 REM
190 DISPLAY AT(3,4)ERASE ALL
:"0) QUIT"
200 DISPLAY AT(4,4):"1) D/FI
28 -) D/V80"
210 DISPLAY AT(5,4):"2) D/V8
0  -) D/F128"
220 DISPLAY AT(6,3):"-------
-------------"
230 DISPLAY AT(7,3):"(1)"
240 ACCEPT AT(7,4)BIZE(-1)VA
LIDATE("012"):A
250 IF A=0 THEN END
260 DISPLAY AT(8,3):"INPUT F
ILENAME"
270 ACCEPT AT(9,3):A$
280 DISPLAY AT(10,3):"OUTPUT
 FILENAME"
290 ACCEPT AT(11,3):B$
300 DISPLAY AT(13,3):"Workin
g..."
310 ON ER... 680
320 ON A GOTO 330,530
330 OPEN #1:A$,DISPLAY ,FIXE
D 128,INPUT
340 OPEN #2:B$,OUTPUT
350 A$=""
360 IF LEN(A$)>80 THEN 420
370 ON ERROR 500
380 LINPUT #1:B$
390 DISPLAY AT(14,1):B$
400 A$=A$&B$
410 ON ERROR 520
420 P=POS(A$,CHR$(13)&CHR$(1
0),1)
430 IF P=0 THEN 470
440 PRINT #2:SEG$(A$,1,P-1)
450 A$=SEG$(A$,P+2,255)
460 GOTO 360
470 PRINT #2:SEG$(A$,1,80)
480 A$=SEG$(A$,81,255)
490 GOTO 360
500 PRINT #2:A$
510 CLOSE #2
520 RUN
530 OPEN #1:A$,INPUT
540 OPEN #2:B$,DISPLAY ,FIXE
D 128,OUTPUT
550 B$=""
560 IF EOF(1)THEN 640
570 LINPUT #1:A$
580 DISPLAY AT(14,1):A$&RPT$
(" ",80)
590 B$=B$&A$&CHR$(13)&CHR$(1
0)
600 IF LEN(B$)<128 THEN 560
610 PRINT #2:SEG$(B$,1,128)
620 B$=SEG$(B$,129,128)
630 GOTO 560
640 PRINT #2:B$
650 CLOSE #1
660 CLOSE #2
670 RUN
680 DISPLAY AT(20,3):"Failed
!"
690 ON ERROR 720
700 CLOSE #1
710 CLOSE #2
720 RUN
```

Program for April

The program for April will be a demonstration of the P-Gram card and the Gram-Kracker. These cards provide you with the ability to change or add to a module. For instance, some of the early modules for the TI had no print-out capability or a print-out for serial printers only. With the GramKracker you can change this configuration to PIO.

You can make other changes also, and Ted Peterson will discuss many of the possibilities. It should prove to be a very interesting program.

In May the program will demonstrate how to configure Funnelweb. As many know, the latest version of Funnelweb has the ability to call other programs once it is loaded. Configuration has not been clearly documented

"Calculator" Prints Out

Last month we published the program "Calculator", and we challenged some member to revise the program to print out to a printer as well as display it on the screen.

Well, the winner is Ashley Read and he will receive as his prize a four disk set of all the programs published in WordPlay during 1987 and 1988. Congratulations to you Ashley.

We plan to have more contests in the future and you are encouraged to enter. WordPlay is your newsletter and you can make it better by contributing to it. If you have an article, a review of a program or anything that would be of interest to the members why not put it in WordPlay? Your editor has noted at the monthly meeting that during the break many little discussions take place that involve the use of our computer. Why not put some of those discussions into print? Then all of us could benefit from what new things our TI can do.

All you have to do is type it out, scribble it out, or just call the editor at his home. He is always on the lookout for material for upcoming issues of WordPlay. Sometimes just the smallest of tips is what our members are looking for. You could be that person that has discovered something that you might want to share.

```
100 ! MODIFIED BY "ASHLEY RE
AD,P.U.N.N"
110 !CALCULATER PROGRAM FROM
 POM.. VALLEY UG
120 OPEN #1:"PIO"
130 CALL CLEAR :: OPTION BAS
E 1
140 DIM A$(10)
150 DISPLAY AT(24,3):"7 SECO
NDS PLEASE" :: FOR F=1 TO 10
 :: FOR G=1 TO 30 :: CALL GC
HAR(F,6,A)
160 C$=C$&CHR$(A):: NEXT G :
: A$(F)=C$ :: C$="" :: NEXT
F
170 CALL CLEAR
180 DISPLAY AT(2,17):"TI CAL
C" :: DISPLAY AT(3,17):"1st
no"
190 DISPLAY AT(4,17):""
200 DISPLAY AT(5,17):"+-/*E"
 :: DISPLAY AT(6,17):"2nd no
" :: DISPLAY AT(7,17):""
210 DISPLAY AT(8,17):"ANSWER
:" :: DISPLAY AT(9,17):""
220 DISPLAY AT(10,17):"CLEAR
 --END"
230 I,J,D,E=0
240 CALL HCHAR(9,20,32,10)::
 CALL HCHAR(10,32,12):: CALL
 HCHAR(7,20,32,10):: ON WARN
ING NEXT
250 ACCEPT AT(4,18)VALIDATE(
NUMERIC)SIZE(10):I :: DISPLA
Y AT(10,16):"CLEAR--END"
260 ACCEPT AT(5,13)SIZE(1)BE
EP VALIDATE("+-/*CE"):B$
270 IF B$="" THEN 260
280 IF B$="E" THEN 370
290 IF J=0 AND B$="C" THEN 2
60
300 IF B$="C" THEN 360
310 IF D$="X" THEN CALL HCHA
R(3,20,10)
320 ACCEPT AT(7,18)VALIDATE(
NUMERIC)SIZE(10):J :: IF D$(
)"X" THEN 340
330 I=K
340 GOSUB 380
350 DISPLAY AT(9,17)SIZE(10)
:K :: GOTO 260
360 D$="" :: GOTO 230
370 FOR F=1 TO 10 :: DISPLAY
 AT(F,17):A$(F):: CALL SOUND
(10,F*220,4):: NEXT F :: GOT
O 450
380 IF B$="%" THEN K=(I*J)/1
00
390 IF B$="+" THEN K=I+J
400 IF B$="-" THEN K=I-J
410 IF B$="/" THEN K=I/J
420 IF B$="*" THEN K=I*J
430 PRINT #1:C$;I;B$;J;"=";K
440 D$="X" :: RETURN
450 CLOSE #1 :: RUN "DSK1.LO
AD"
```

and once it is understood, it can prove to be a bonus to those who use this program. Your editor has used this program to call many of the programs needed to write the bulletin. The June program will be a review of the new data base, TI-Base and in July the upcoming word processing program PRESS will be discussed.

All of these and more interesting programs are planned for PUNN meetings. Better plan now on attending.

"Bunny"

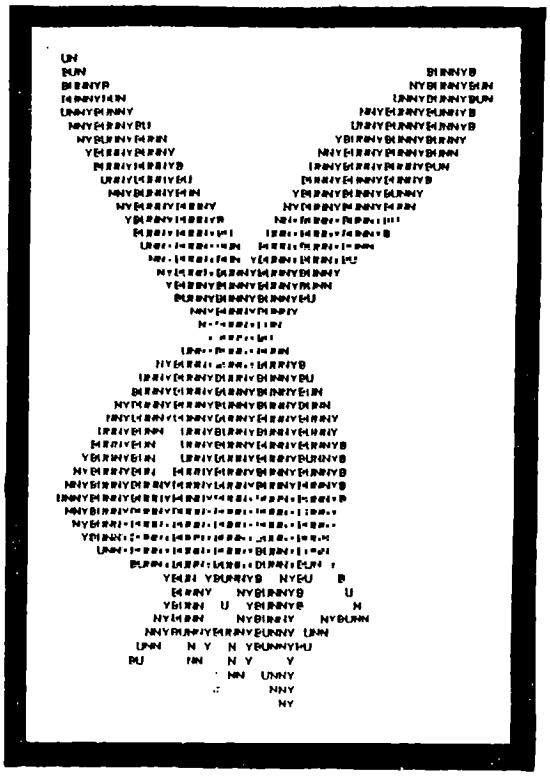
Easter came and went early this year and last month we didn't offer our usual Easter program.

So here it is belatedly. It was typed in by Rick Reese and we thank him for it. It doesn't do much other than draw a little rabbit through you printer.

We're showing a reduced version here, but it actually prints out on a full sheet of paper.

This one should be fun to type in and let the kids see it print out.

```
1 OPEN #1:"PIO",OUTPUT
10 PRINT #1:TAB(35);"BUNNY"
20 PRINT #1:TAB(18);"CREATIV
E COMPUTING MORRISTOWN, NEW
JERSEY"
30 PRINT
31 PRINT
32 PRINT
100 REM "BUNNY" FROM MAHL'B
 'BASIC COMPUTER GAMES'
110 REM
111 PRINT #1:TAB(30);"REVISE
D TO BASIC"
112 PRINT #1:TAB(31);"FOR TH
E TI/994A"
113 PRINT #1:TAB(32);"BY JIM
 LUQUE"
120 FOR I=0 TO 4
121 READ B(I)
122 NEXT I
130 GOSUB 260
140 L=64
150 REM
160 PRINT
170 READ X
171 IF X<0 THEN 160
175 IF X>128 THEN 240
180 PRINT #1:TAB(X);
181 READ Y
190 FOR I=X TO Y
191 J=1-5*INT(I/5)
200 PRINT #1:CHR$(L+B(J));
210 NEXT I
220 GOTO 170
230 REM
240 GOSUB 260
241 GOTO 450
250 REM
260 FOR I=1 TO 6
261 PRINT #1:CHR$(10);
262 NEXT I
270 RETURN
280 REM
290 DATA 2,21,14,14,25
300 DATA 1,2,-1,0,2,45,50,-1
,0,5,43,52,-1,0,7,41,52,-1
310 DATA 1,9,37,50,-1,2,11,3
6,50,-1,3,13,34,49,-1,4,14,3
2,48,-1
320 DATA 5,15,31,47,-1,6,16,
30,45,-1,7,17,29,44,-1,8,19,
28,43,-1
330 DATA 9,20,27,41,-1,10,21
,26,40,-1,11,22,25,38,-1,12,
22,24,36,-1
340 DATA 13,34,-1,14,33,-1,1
5,31,-1,17,29,-1,18,27,-1
350 DATA 19,26,-1,16,28,-1,1
3,30,-1,11,31,-1,10,32,-1
360 DATA 8,33,-1,7,34,-1,6,1
3,16,34,-1,5,12,16,35,-1
370 DATA 4,12,16,35,-1,3,12,
15,35,-1,2,35,-1,1,35,-1
380 DATA 2,34,-1,3,34,-1,4,3
3,-1,6,33,-1,10,32,34,34,-1
390 DATA 14,17,19,25,28,31,3
5,35,-1,15,19,23,30,36,36,-1
400 DATA 14,18,21,21,24,30,3
7,37,-1,13,18,23,29,33,38,-1
410 DATA 12,29,31,33,-1,11,1
3,17,17,19,19,22,22,24,31,-1
420 DATA 10,11,17,18,22,22,2
4,24,29,29,-1
430 DATA 22,23,26,29,-1,27,2
9,-1,28,29,-1,4096
440 CLOSE #1
450 END
```



Fun Program

The following is our "Fun" program for the month. It's a short program and easy to type in.

Rather than wait to get it from the library, why not take a few minutes to type it in right now. I gaurantee there will be a surprise for you when you run the program. The program is self prompting, so after you have loaded it in follow the instructions for the surprise ending.

```
100 CALL CHAR(42,"FFFFFFFFFF
FFFFFF")
110 CALL CLEAR :: CALL SCREE
N(2)
120 FOR I=4 TO 13 :: CALL CO
LOR(I,2,16):: NEXT I
130 DISPLAY AT(8,4):"Dont$to
uch$any$key$"
140 CALL KEY(0,K,S):: IF S=0
 THEN 140
150 CALL CLEAR
160 FOR I=1 TO 9 :: CALL COL
OR(I,16,I):: NEXT I
170 FOR J=1 TO 20
180 CALL SOUND(30,INT(RND$10
00)+500,INT(RND$15))
190 CALL SOUND(30,15000,30)
200 K=INT(RND$8)+1
210 R=INT(RND$22)+1 :: C=INT
(RND$28)+1
220 IF K>5 THEN 260
230 DISPLAY AT(R,C):M$(1)
240 NEXT J
250 GOTO 280
260 DISPLAY AT(R,INT(RND$9)+
1):M$(2)
270 GOTO 240
280 FOR RX=1 TO 20 :: DISPLA
Y AT(24,1):S$ :: GOSUB 350
290 DISPLAY AT(24,1):M$(3)::
 GOSUB 350 :: NEXT RX
300 FOR DX=1 TO 600 :: NEXT
DX
310 CALL INIT :: CALL LOAD(-
31961,51)
320 FOR Y=1 TO X
330 READ D :: M$(N)=M$(N)&CH
R$(D)
340 NEXT Y
350 RETURN
360 DATA 72,65,45,72,65,46,7
3,32,75,78,69
370 DATA 87,32,89,79,85,32,6
7,79,85,76
380 DATA 68,78,39,84,32,82,6
9,83,73,83,84,33
390 DATA 77,65,67,72,73,78,6
9,83,32,65
400 DATA 82,69,32,83,85,80,6
9,82,73,79
410 DATA 82,32,84,79,32,77,6
5,78,67,72
420 DATA 73,67,75
```

D O M for April

The software selections for the month of April will be a "Clubline" of one disk of interesting programs from the library and another disk of selected programs of BBS downloads. Each disk is priced at $3.00. Your support of the club library helps to support other club functions.

You can also browse through the catalog and order any program or group of programs. The library is working on a new catalog that will soon be ready and this should make it much easier to select programs. Kieth Fast is now providing these disks in an "archived" format, that are easily converted for your use. He states however, that anyone who prefers their disks in an un-archived format can get them that way too.

Good Old XBasic

There are some new guys in the TI-99/4A neighborhood. Among them are such stars as FORTRAN, FORTH, PILOT AND SMALL c. They have lots of adherants who say that FORTRAN is "Like Basic", FORTH is "Exceptionally flexible", PILOT has "Simplicity", and 'c' has "Speed and structure". They are Compiled Languages which means they certainly do run much faster than our old friend XBasic. SOOOoooo? Why bother with Extended Basic at all? Why not go with the New? The Better? The Faster?

One of the great things about our beloved TI-99/4A is that even with its limited memory, it CAN support FORTH and c and PILOT. I consider any of the computer languages that will accomplish what is needed to be fine! For me, however, Extended Basic still remains the EASIEST and BEST, especially when coupled with Assembly Language subroutines that speed up often important areas.

Let me try to lead you through a discussion of the pros and cons of Extended Basic without "putting down" in the slightest ANY other language for the TI.

Extended Basic has many advantages from a programmer's viewpoint, not the least of which is that it is an interpreted language with a plethora of error debugging routines built in. One of the real swift pains in the neck of a compiled language is that if it is compiled containing errors or bugs, these are extremely hard to find. This does not mean they cannot be found or that good programmers cannot produce error free compiled code. It is a fact however that debugging, adding to, subtracting from, changing code, etc., is much easier with XB.

It is a shame that TI chose to make XB a "double" interpreted language by writing it in GPL, TI's "secret proprietary language. To the best of my knowledge TI has never released this language and should they take legal action, they could make trouble for those who have violated their rights by selling GPL programs and books explaining GPL. It would have been better if the interpreter had been written in Assembly a la MYARC's XB. The added speed of MYARC's SB is a big improvement over TI's XBasic. However, the whole subject of execution speed will be discussed in a future article. It deserves separate discussion because this area is what is most often raised in any and all debates on the merits of TI XB.

One of the biggest advantages of XB is its EASE OF USE AND UNDERSIGNDING. BASIC itself was written just for that purpose. BASIC is supplied with such popular computers as Apple, Atari, Commodore and IBM. This ease of use was most important in bringing better understanding of computers and use of computer languages to large numbers of users. If for no other reason, the Basic language continues to survive because it is easy to learn. As far as the 99/4A goes, another advantage is that the language itself resides outside the RAM areas. It is in ROM and GROM. The cover of the XB manual states that the module contains "32K bytes of preprogrammed memory". Most of the RAM is free. Additionaly, XB accesses, again with simplicity, clarity and ease, the built in ROM routines such as Device Service - printers, cassette, disk drives -, screen access and display, setting up of buffers, graphics and sprites, mathematics, etc. Many of the "new" languages save RAM memory by also accessing these same ROM routines, running at the same speed for all!

Now let's talk about available memory. Because support for Forth and 'c', for example, must be loaded into the main 32K memory area, they do not have as much memory available as some programmers feel is absolutely necessary. This problem has been solved by using virtual memory - that is, disk storage of Forth screens (blocks) or C support routines. Since XB support resides in console ROM and the module itself, the full 24k upper RAM is available for programs and the 8K low memory for Assembly support routines and most of VDP RAM for string storage etc. For example, I recently purchased a Disassembler which was written in Forth. The author plainly stated that because of the memory used by Forth itself plus the program, it was not feasible to disassemble programs from RAM. It did its disassembly right off the disk! Since Basic resides in ROM, a disassembler written for E/A or MM modules can be written in plain old BASIC, and can disassemble programs that use the 24K upper and 8K lower memory, because it resides in VDP RAM and will not overwrite the program.

Some last points! Let's look at what we have to work with. We have a machine designed as a HOME computer. For almost every purpose or use, memory and speed available through XB are more than sufficient. We are not tracking satellites, doing high order lengthy math or searching a database the size of the national Social Security register. We have a hundred or so names on our phone list. We do not require massive spread sheets. For our normal practical purposes XB and the TI-99/4A can suit our needs. In fact I may be accused of HERESY, but I did almost everything with only the XB module and cassette - NO memory expansion or disk!!

What is more, when I need a special program written to fill a personal need, I write it, debug it and am using it in a matter of a few minutes to at the most an hour. This is possible because the most frequently used XB GOSUB routines and CALL SUBs are saved on disk as MERGE files ready to be placed into a program, easily and quickly. Many programmers overlook this useful feature of XB. In future articles in this series we will show concrete evidence to backup the ideas expounded on here. They are NOT purported to be a tutorial in Basic programming. Rather, they will place a point of view before you as food for thought. Hopefully this will lead to your return to some good Basic programming.

Use the Telephone

Despite the best efforts of the Bell Telephone Company and its offsprings to brain-wash us into accepting the telephone as a complete substitute for letter-writing, you know and we know and all the telephone executives around the country know that the letter is still essential to business and personal life. We will admit however, that in some situations a telephone call, for obvious reasons, is much to be preferred.

These situations, of course, always involve the need for having no permanent record of your possible verbal indescretions-cases in which normal advantages of a letter may well prove disastrous. Among such situations are:

1) When your temper blows, it is ordinarily better not to have it in writing because sooner or later you may forgive or you may be proved to be in the wrong or the man you blow up to may turn out to be your new vice-president.

2) Sometimes, on the other hand, a real temper tantrum is what's required. If you delay until you can dictate a letter you may become reasonable and lose your only chance to tell him off.

3) If there is a possibility that you may be libeling your competitor, a former employee or your best friend, why make it easy for them to sue by putting it down on paper?

4) When you receive a complaint that is so complicated even you can't understand what has happened, apolgize by long distance. It saves you from agonizing over a difficult letter and, especially if the customer lives in a town of 10,000 or under, you will give an impression of personal service-you really care-guaranteed to penetrate the toughest hide.

5) Sometimes it is necessary to outwit your notoriously curious secretary. There is no reason for her to know all your business and (unless her girl friend is on the switchboard and listens in on your calls) you can achieve privacy and keep her in her place at the same time by using the telephone for confidential matters, official and otherwise.

Chess Clock

This Extended Basic program is named Chess Clock. It was written by Wesley R. Richardson.

Chess Clock allows two players to alternate running their own clocks by pressing any key on their side of the keyboard or by pressing the fire button of their joy stick. The clock can be pre-set to any time from zero to 99 hours, 59 minutes and 59 seconds. It will also count either up or down.

For you chess fans out their, you probably know that most chess tournaments are timed, usually 30 or 40 moves in two hours time for each player. The player who plays first will start his timer and when he has made his move, he will start his opponents timer which will automatically stop his own clock.

If you play chess and have not purchased a clock you'll find this program quite adequate. By the way, your editor is into chess and will accept all challenges for a game, with or without using a clock.

After you type in the program you may wish to fine tune the rate of the clock for your machine by changing the R1 constant for the left player and the R2 constant for the right player. To do this use the following formulas in lines 140 and 150:

NEW R1=(OLD R1)*(ACTUAL TIME)/(L CLOCK TIME)
NEW R2=(OLD R2)*(ACTUAL TIME)/(R CLOCK TIME)

With this calibration you should be able to set the clocks to reasonable accuracy.

```
100 REM CHESSCLOCK
110 REM TI-99/4A EXTENDED BA
SIC
120 REM WESLEY R RICHARDSON,
 OCT 1987
130 REM BLUEGRASS 99 COMPUTE
R SOCIETY
140 R1=0.33294 ! LEFT  CLOCK
 INCREMENT CONSTANT
150 R2=0.31917 ! RIGHT CLOCK
 INCREMENT CONSTANT
160 REM VARIABLES A$,B$,C$,I
,J,K
170 REM VARIABLES R1,R2,R3,R
4,S,T,T1,T2,T$,U,U1,U2,V,V1,
V2,W,W1,W2,W$,X,X1,X2,Y,Y1,Y
2,Z,Z1,Z2
180 DEF T$(S)=STR$(1S-104)*0
.25)
190 CALL CLEAR :: CALL SCREE
N(5):: FOR I=3 TO 8 :: CALL
COLOR(I,16,1):: NEXT I
200 DISPLAY AT(2,9):"CHESS C
LOCK" :: DISPLAY AT(23,5):"W
ESLEY R RICHARDSON"
210 DISPLAY AT(8,1):"YOU MAY
 USE EITHER JOYSTICK":"FIRE
BUTTONS OR ANY KEY ON":"YOUR
 SIDE OF THE KEYBOARD TO"
220 DISPLAY AT(11,1):"START
YOUR OPPONENT'S CLOCK":"":"P
RESSING SPACEBAR STOPS THE":
"CLOCKS TO HOLD RESET OR END
"
230 DISPLAY AT(16,1):"IF JOY
STICKS ARE USED THEN":"LEFT
 PLAYER USES JOYSTICK 1":"RI
GHT PLAYER USES JOYSTICK 2"
240 CALL CHAR(42,"0"):: CALL
 COLOR(2,2,16)
250 CALL CHAR(96,"0103070F1F
3F7FFFFF7F3F1F0F070301000000
0000FFFFFFFFFFFF0000000000")
! L ARROW
260 CALL CHAR(100,"000[illegible]
CFFFFFFFFFFFF0000C[illegible]
0F0F8FCFEFFFFFFEFCF8F[illegible]"
)! R ARROW
270 CALL CHAR(104,"071F[illegible]
8383E[illegible]
C1C1C1C1C1C1C1C1C1C1C[illegible]"
)! 0
280 CALL CHAR(108,"000103070
7010101010101010101010707C0C0C
0C0C0C0C0C0C0C0C0C0C0C0C0F0F0"
)! 1
290 CALL CHAR(112,"0F1F3C[illegible]
8[illegible]00[illegible]1F[illegible]83F3FEC[illegible]
81C[illegible]C3C78F0C080000000FCFC"
)! 2
300 CALL CHAR(116,"3F3F[illegible]
0000707000000C[illegible]
C3C78F0E0E0F0[illegible]1C1C[illegible]3CF8F0"
)! 3
310 CALL CHAR(120,"000[illegible]
[illegible]F000C[illegible]
C[illegible]E0F8FE[illegible]"
)! 4
320 CALL CHAR(124,"3F3F[illegible]
[illegible]F0000000038383C1F0F[illegible]
00000E0F87C1C1C1C1C1C3CF8F0"
)! 5
330 CALL CHAR(128,"071F[illegible]
83838383F[illegible]1F0[illegible]
C1C1C000C[illegible]C1C1C1C3CF8E0"
)! 6
340 CALL CHAR(132,"3F3F00000
C[illegible]0001010103[illegible]CFC3
C[illegible]F0F0F0E0E0E0C0C0C0"
)! 7
350 CALL CHAR(136,"071F[illegible]
[illegible]
C[illegible]C3CF[illegible]C1C1C1C3CF8E0"
)! 8
360 CALL CHAR(140,"071F[illegible]
[illegible]F37000038383C1F0[illegible]
C1C[illegible]3CFCDC1C1C1C1C3CF8E0"
)! 9
370 U1,V1,W1,X1,Y1,Z1,U2,V2,
W2,X2,Y2,Z2=104 :: T1,T2=0
380 REM RESTART POINT
390 CALL DELSPRITE(ALL)
400 DISPLAY AT(4,1):"LEFT  P
LAYER     RIGHT PLAYER"
410 ACCEPT AT(5,1)SIZE(-12):
A$ :: ACCEPT AT(5,17)SIZE(-1
2):B$
420 DISPLAY AT(6,1):"WHITE?
YN" :: ACCEPT AT(6,8)SIZE(-1
)VALIDATE("YN"):C$
430 IF (C$="Y")+(C$="y")THEN
 DISPLAY AT(6,1):"WHITE
     BLACK" ELSE DISPLAY AT
(6,1):"BLACK           WHITE
"
440 FOR I=7 TO 23 :: DISPLAY
 AT(I,1):"" :: NEXT I
450 DISPLAY AT(7,1):"START T
IME?     START TIME?"
460 DISPLAY AT(8,8):T$(U1)&T
$(V1)&" HOURS  "&T$(U2)&T$(
V2)
470 DISPLAY AT(13,8):T$(W1)&
T$(X1)&" MINUIES "&T$(W2)&T$
(X2)
480 DISPLAY AT(18,8):T$(Y1)&
T$(Z1)&" SECONDS "&T$(Y2)&T$
(Z2)
490 CALL NOW(T,8,8):: T=3600
*T :: CALL NOW(U,13,8):: T=T
+60*MIN(59,U):: CALL NOW(U,1
8,8):: T1=0.5+T+MIN(59,U)
500 CALL NOW(T,8,19):: T=360
0*T :: CALL NOW(U,13,19):: T
=T+60*MIN(59,U):: CALL NOW(U
,18,19):: T2=0.5+T+MIN(59,U)
510 DISPLAY AT(23,1):"COUNT
UP OR DOWN ? UD" :: ACCEPT A
T(23,[illegible])SIZE(-1)VALIDATE("UD
"):W$
520 IF (W$="U")THEN R3=R1 EL
SE R3=-R1
530 IF (W$="U")THEN R4=R2 EL
SE R4=-R2
540 DISPLAY AT(7,1):""
550 FOR J=0 TO 2 :: FOR I=1
TO 4 :: DISPLAY AT(7+I+5*J,1
):" ********         *******
*" :: NEXT I :: NEXT J
560 DISPLAY AT(8,12)SIZE(-5)
:"HOURS" :: DISPLAY AT(13,11
)SIZE(-7):"MINUTES" :: DISPL
AY AT(18,11)SIZE(-7):"SECOND
S"
570 CALL MAGNIFY(4)
580 CALL SPRITE(#1,96,1,24,1
12,#2,100,1,24,112,#3,104,2,
56,26,#4,104,2,56,58,#5,104,
2,96,26)
590 CALL SPRITE(#6,104,2,96,
58,#7,104,2,136,26,#8,104,2,
136,58,#9,104,2,56,162,#10,1
04,2,56,194)
600 CALL SPRITE(#11,104,2,96
,162,#12,104,2,96,194,#13,10
4,2,136,162,#14,104,2,136,19
4)
610 CALL TICK(0,T1,U1,V1,W1,
X1,Y1,Z1)
620 CALL PATTERN(#3,U1,#4,V1
,#5,W1,#6,X1,#7,Y1,#8,Z1)
630 CALL TICK(0,T2,U2,V2,W2,
X2,Y2,Z2)
640 CALL PATTERN(#9,U2,#10,V
2,#11,W2,#12,X2,#13,Y2,#14,Z
2)
650 REM MAIN LOOP
660 DISPLAY AT(22,1):"0=STAR
T LEFT    1=START RIGHT":"3=R
ESET           8=QUIT"
670 CALL KEY(0,K,S):: IF S=0
 THEN 670
680 IF K=51 THEN 380 ! RESTA
RT
690 IF K=56 THEN 860 ! END
700 IF (K<48)+(K>49)THEN 670
710 DISPLAY AT(22,1):" PRESS
 KEY OR FIRE BUTTON":" TO ST
ART OPPONENT'S CLOCK"
720 IF K=48 THEN 740 ! PLAYE
R 1
730 IF K=49 THEN 800 ! PLAYE
R 2
740 REM PLAYER 1
750 CALL COLOR(#1,4,#2,1)
760 CALL KEY(0,K,S):: IF K=3
2 THEN 790 ELSE CALL KEY(1,K
,S):: IF S=0 THEN 770 ELSE 8
00
770 CALL TICK(R3,T1,U1,V1,W1
,X1,Y1,Z1)
780 CALL PATTERN(#3,U1,#4,V1
,#5,W1,#6,X1,#7,Y1,#8,Z1)::
GO TO 760
790 CALL COLOR(#1,9):: GO TO
 650
800 REM PLAYER 2
810 CALL COLOR(#1,1,#2,4)
820 CALL KEY(0,K,S):: IF K=3
2 THEN 850 ELSE CALL KEY(2,K
,S):: IF S=0 THEN 830 ELSE 7
40
830 CALL TICK(R4,T2,U2,V2,W2
,X2,Y2,Z2)
840 CALL PATTERN(#9,U2,#10,V
2,#11,W2,#12,X2,#13,Y2,#14,Z
2):: GO TO 820
850 CALL COLOR(#2,9):: GO TO
 650
860 REM END
870 CALL CLEAR :: CALL CHARS
ET :: CALL DELSPRITE(ALL)::
END
880 SUB TICK(R,T,U,V,W,X,Y,Z
)
890 T=T+R
900 IF T<0 THEN T=359999.5
910 IF T>=360000 THEN T=0.5
920 S=T/36000 :: U=INT(S)::
S=10*(S-U):: V=INT(S):: S=6*
(S-V):: W=INT(S)
930 S=10*(S-W):: X=INT(S)::
S=6*(S-X):: Y=INT(S):: Z=INT
(10*(S-Y))
940 U=104+4*U :: V=104+4*V :
: W=104+4*W :: X=104+4*X ::
Y=104+4*Y :: Z=104+4*Z
950 SUBEND
960 SUB NOW(W,X,Y)
970 ACCEPT AT(X,Y)SIZE(-2)VA
LIDATE("0123456789"):W$ :: W
=VAL(W$)
980 SUBEND
```

What To Do With Your Computer

Word Processing and small business accounting are probably the most used, according to Norman Goode, publisher of "Micro Moonlighter Newsletter".

A Consulting Service is the second most popular. One service is Information Brokering. For a fee, people will search on-line data bases for specific information, (charting various stocks is one example). Though the on-line fees for CompuServe and The Source are costly, with the proper choice of clients, it has become a profitable business. (NOTE: Smart Modems have been programmed to not only dial the on-line number, but also find your way through the various menus to the desired information center!).

One woman uses her Word Processor for setting up text. She types various manuscripts, adds the proper type-setting codes and then sends it via a modem to a type-setting company. She does this for many companies in her area. She accomplishes all of this with her trusty little TI-99/4A and we bet all those companies think she has a $60,000.00 type-setting machine.

PC Keys - a Review

PC KEYS
REPORT CARD
(As reviewed by Ron Albright,
and downloaded from CompuServe)

Performance.....A
Ease of use.....A
Documentation.....B+
Value.....B
Final Grade.....A-
Cost: $22.50
Manufacturer: TECHNI-GRAPHICS,
443 Perrie Drive #302, Elk
Grove Village, IL 60007

Requirements: Console, monitor or television, memory expansion, Extended Basic, Disk System, Printer optional. Originally appearing at the Chicago TI FAIRE of last year as PF KEYS (and selling for $15), Jim Kryzak refined and improved his program and even re-named it to, more appropriately PC KEYS. PC KEYS ("programable control keys") is a E/A program loaded through XB and allows several special "CALL KEYS" to reside in LOW memory (thus not using any memory space available to XB programs) and called up by an interupt routine. Once loaded, the active keys are as follows:

CTRL 1 - "RUN"
CTRL 2 - "LIST"
CTRL 3 - "NUMBER"
CTRL 4 - "RESEQUNCE"
CTRL 5 - "RUN DSK1.LOAD"
CTRL 6 - "OLD"
CTRL 7 - "SAVE DSK1. "
CTRL 8 - "CALL LINK("ON")"
(TURNS ON KEY-SCAN FOR CATALOG
AND SCREEN DUMP)
CTRL 9 - LIST "PIO"

Once loaded, PC KEYS allows the user to use a single key-stroke to initiate any of the above functions. For example, if you have programmed a segment of code and are ready to save to disk, hit CTRL 7 and SAVE DSK1. will appear with the cursor positioned after the period.

Type in the program name and hit enter and out to disk your program goes. Then, you might want to run your program. Instead of typing "RUN", hit CTRL 1. RUN will appear and hitting ENTER will initiate the command. Want to RESequence? Hit CTRL 4, then ENTER and you've started. LIST and all the other commands work the same.

The program also loads a resident SCREEN DUMP program and a resident DISK CATALOG routine. To be able to call these up, you must type CALL LINK("SETPRT",DEV$) to set your specific printer description.

For example, one would type CALL LINK ("SETPRT", "RS232.BA=4800.DA=8") for my printer (if your printer is PIO, you need not use this routine). Then, either type CALL LINK-("ON") or use CTRL 8 to turn on the KSCAN routine (not always in use as it slows keyboard response for program entry), and then hit CTRL 0 for the SCREEN DUMP or CTRL = for the CATALOG. You can then type CALL LINK ("OFF") to turn off the KSCAN.

NOTE: The screen dump and catalog routines are TRUE software interupts! This means that you do not have to put a new line of code in a graphics program LINKing the dump. Just run your program and, when you want the screen dumped, hit CTRL 0 . The program execution will be interupted (NOT BROKEN!), the screen will be dumped, and then, PROGRAM EXECUTION WILL RESUME, right where you interupted it! I did it with two music programs. It was neat to hear execution stop on a note, the note being held while the screen is dumped, and then the music resume without missing a note! I have never seen this software interupt function in any other commerical program.

The catalog routine function works in exactly the same way-hit CTRL =, .catalog to screen or printer, and then the program will resume exactly where you interupted it. An incrdible function!

You are not restricted to the above preset commands. You are able to "re-program" any or all of the CTRL number keys to ANY of 140 character commands. To do this, you follow this procedure: [1] Unless you want to run the command immediately, preceed it with a "!"...for example, in the immediate mode, type ! RUN "DSK1.MYPROGRAM". [2] Hit ENTER [3] Press FCTN 0 - you will then enter the SAVE utility and see the message "SAVE AS PC#(1-9), 0-EXIT:" [4] Enter a number from 1 to 9. The new command has replaced the old command and can be tested by hitting CTRL X (where X is the number given for the new command). RUN "DSK1.MYPROGRAM" should pop up. It is conceivable to program rather complex commands this way.

You are only restricted to the 140 character limit. PC KEYS also provides for several other useful commands available in the immediate mode. CALL LINK("COLOR",F,B) - allows you to change the screen and character colors in run-command mode. F=forground color, B=background color. CALL LINK("NORMAL") - returns to normal black on cyan colors. CALL LINK("SPEED",S) - changes number of keyboards interupts per second. S can =1 to 60. The default is 7; 1 is fastest, 60 is slowest.

Criticisms: If you REALLY want to get picky, you could ask for a more flexible screen dump (PCKEYS has only single size/single-density dumps to the left border), but that is about all I could think to complain about.

Documentation: The documentation provided with the program consists of a 4-page printout which, though sparse, completely outlines the commands clearly and completely.

Summary: I think the PC KEYS is an excellent set of routines for any XB programmer who spends a lot of time encoding. Not having to re-type the same commands over and over (like the ad says!), may be of value to anyone with long XB programs they are working on. The resident screen dump and catalog itself are almost worth the cost of the program.

It is well done, functional and performs as advertised. I felt (though I am cheap!) that $22.50 may be a bit steep for pricing ...perhaps $15-17.50 would have been more realistic (after all, PC KEYS costs more than MG's DIAGNOSTICS!). I like the program and have made a keyboard overlay to help me remember the commands. I think if you do program a lot, PC KEYS may be a good investment, depending on how fast you type!

WORDPLAY
The PUNN Newsletter
P. O. Box 15037
Portland, Oregon 97215

ALL GENERAL MEETINGS ARE HELD
ON THE FIRST TUESDAY OF EACH
MONTH, AT THE PGE BUILDING
3700 S.E. 17th AVENUE
PORTLAND, OREGON

NEXT MEETING DATE
APRIL 4th. 1989

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