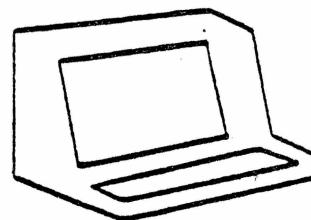


THE INTERFACE

NEWSLETTER OF THE SAN GABRIEL VALLEY
TRS-80 USERS GROUP



Volume 7 Number 8

Price \$1.50

August, 1986

EUNUCHS!!!

Oops. . I mean "UNIX"

Sorry. . . a bad pun, but I just couldn't resist. TRSDOS, NewDos, MultiDos, we know about. Andy Levinson will provide us with an overview of UNIX, the operating system the big boys use. UNIX has a reputation for being powerful but incomprehensible. Andy is going to take away some of the mystery.

The August Meeting will be held Friday, August 8, at 7:30 PM
in the Arcadia Park Senior Citizen's Center
405 South Santa Anita Avenue, Arcadia

-- SAGATUG meets the second Friday of every month --

Thanks

My heart-felt thanks to the members who are contributing to the INTERFACE. . . I appreciate it, and I'm sure the members of the club who read the INTERFACE appreciate it too.

Club Officers:

President	-----	Andy Levinson
Vice President	-----	Don La Favor
Sec'y/Treasurer	-----	Dan Dresselhaus
Club Disk Librarian	-----	Mark Speer
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INTERFACE Editor	-----	John T. Phillipp (818) 914-5803
Submissions	-----	815 S. Walnut, San Dimas, CA 91773

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PRESIDENT'S LETTER

Welcome to August. I do not have much to say this month beyond "thank you" to all for helping support The Interface. What a thrill to see the new names and old contributing. Keep up the good work!

August Speaker

Two months back, the members indicated that they wanted to hear about things other than strictly Model I/III/4 subjects. Last month we had the successful discussion by Karl Hatfield on ham radio and its relation with computers (and thank you again Karl). This month, it is back more into the computer field but a step up from the TRS-80.

UNIX is an operating system, akin to TRSDOS or NewDos80. Unlike say TRSDOS, UNIX (and derivatives such as XENIX) runs on almost any computer. UNIX can handle multiple jobs and users at the same time and has hundreds of utilities that ease through most tasks. As MS-DOS becomes more UNIX-like and even Big Blue now producing a UNIX-based computer, UNIX looks like the operating system of the late 80's and beyond. Hear more at the August meeting.

Tandy's Latest

One month ago, I told you that Tandy announced it would soon be introducing some new product. Tandy invited all to join the rumor mill and I joined the fray. Here are the FIVE new machines announced on July 30, 1986:

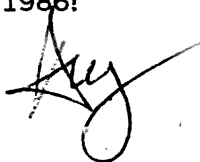
Tandy 1000 SX and 1000 EX: The 1000 has been replaced by two machines. The EX is the new "low-end" PC-compatible. Priced at \$799, it runs at either 4.77 or 7.16 MHz, comes with one floppy, 256K, a keyboard integrated into the CPU, (welcome back Model III!), DOS 2.11 and Basic and "Personal DeskMate". The SX lists for \$1199 and has 384K, two floppies, takes full-size cards, has 640K on the main board, and comes with DOS 3.2, Basic and DeskMate II. (Note that DOS and Basic reference manuals are extra.)

3000 HL and HD: The HL is actually a replacement for the 1200, the only computer that Tandy does not manufacture itself. The HL is like a baby AT, with a switchable 4/8 MHz 80286, 512K, one 360K floppy, hardware clock, and \$1699 list price. The HD is an enhanced 3000. It has an 8 MHz 80286 with 1.2 Mb floppy, 40 Mb hard disk, 640K, hardware clock, and \$4299 suggested list price.

Color Computer 3: The long-awaited new CoCo has an 0.87/1.7 MHz 6809E, 128K (expandable to 640K), added keys, text up to 80x24, graphics from 8 colors in 64x32 to 4 colors in 640 x 192, 21 new commands in enhanced Basic, proclaimed full compatibility with CoCo2 hardware and software, plus \$219.95 list price.

Looking back at my predictions: I correctly predicted a new 1000 with more memory on the motherboard and ability to take long boards, and a variation on the 3000 "perhaps with AT-type hard drive and a quieter fan". Tandy did not offer noise ratings for the HD fan but the new HD drive has 28 ms average access time as opposed to 85 ms for the "old" 3000. One error: I called the new 3000 for the Fall. What's my steak dinner Mr. Juge? For those who are interested, I have Tandy press releases detailing the new machines and will bring them with me to the meeting.

See you this Friday, August 8, 1986!



Ramblings by:

Ronald A. Chill - 1150 Brighton Beach Avenue - Brooklyn, New York

To make Andy Levinsons program, FKEYER more useful, I changed two lines in the program listing. Instead of entering a character from the key board you enter any ASCII code. The advantage is that now characters not normally found on the key board can be programmed into the [F] keys.

Change line 550 to: INPUT "ASCII value";I

Change line 560 to: D(A*X*4)=I

CHANGING THE [F] KEY CODES ON THE FLY

The addresses that follow are ONLY valid if FKEYER is the first machine language program installed from dos. To re-define the [F] keys from BASIC, POKE any of the following addresses with the ASCII value of your choice.

Example: To change, CTRL F1, POKE,-10,### (###=ASCII value).

F1 = -12	F2 = -08	F3 = -04
SHIFT F1 = -11	SHIFT F2 = -07	SHIFT F3 = -03
CTRL F1 = -10	CTRL F2 = -06	CTRL F3 = -02
SHIFT/CTRL F1 = -09	SHIFT/CTRL F2 = -05	SHIFT/CTRL F3 = -01

You can program any of the printable ASCII codes between 32 and 191. The ASCII codes 129 to 250 also represent basic tokens and can also be programmed. When the codes between 128 and 191 are programmed a graphic block will appear on the screen after the [F] key is pressed. If you enclose this block in quotes it will remain a graphic block. However, if you DO NOT enclose it in quotes the code when listed will be converted to the printable reserved work wanted.

The following short routine is part of a new program I am developing. What it does is remove all blank spaces (ASCII 32) from the trailing end of the string called A\$. For the routine to work correctly in my program it has to work with all of the following examples.

A\$="R	"	changes to	A\$="R"
A\$="R0	"	changes to	A\$="R0"
A\$="	"	changes to	A\$=""

```
10 STATUS=0:COUNT=0:B=0:LENGTH=LEN(A$):WHILE STATUS=0:COUNT=
COUNT+1:IF COUNT=LENGTH+1 THEN A$="":STATUS=1:GOTO 20ELSE
IF MID$(A$,LENGTH+1-COUNT,1)=" "THEN B=B+1 ELSE IF MID$(A$,
LENGTH+1-COUNT,1)<>" "THEN A$=LEFT$(A$,LENGTH-B):STATUS=1
20 WEND
```

My Model 4 system consists of two 40 track, 2 headed drives and two 80 track, 2 headed drives. Can anyone supply me with a machine code program that will allow reading the 40 track disks in the 80 track drives under TRSDOS6.2 control.

The following SIMPLE program is for Newdos/80, Model III. What it does is take the guess work out of PDRIVE configurations. It works fine from within BASIC, however as I like to change drive specifications from DOS, it was also written to be compiled. If you have ZBASIC, version 2.2, then use ZXCD48/CMD. Otherwise use the program from BASIC, in either case it will do the job nicely.

Regards,

Ron

```

100 'FILE NAME DRIVES/BAS - Ronald A. Chill - Brooklyn, New York
200 CLEAR 500
300 AA#="Model III, 40 tks, Sden, 1 side"
400 BB#="Model I, 34 tks, Dden, 1 side"
500 CC#="Model I, 39 tks, Dden, 1 side"
600 DD#="Model III, 40 tks, Dden, 1 side"
700 EE#="Model III, 40 tks, Dden, 1 side, TRSDOS1.3"
800 FF#="Model III, 40 tks, Dden, 2 sides"
900 GG#="Model III, 80 tks, Dden, 2 sides"
1000 HH#="Model III, 80 tks, Dden, 2 sides, double step"
1100 CLS:PRINT CHR$(23)
1200 PRINT@12,"1. CHANGE DRIVE #1"
1300 PRINT@140,"2. CHANGE DRIVE #2"
1400 PRINT@268,"3. CHANGE DRIVE #3"
1450 'See lines 2500 to 3010 for SYSTEM standards.
1500 PRINT@396,"4. SYSTEM STANDARDS"
1600 PRINT@524,"5. NO MORE CHANGES"
1700 PRINT@904,"PLEASE MAKE A SELECTION"
1800 X#=INKEY$:IF X#=""THEN 1800
1900 IF X#="1"THEN 3200
2000 IF X#="2"THEN 3200
2100 IF X#="3"THEN 3200
2200 IF X#="4"THEN 2500
2300 IF X#="5"THEN CLS:END
2400 GOTO 1800
2500 CLS
2550 'My default for drive 1. Part of SYSTEM standards
2600 CMD"PDRIVE,0,1=0,A"
2700 CLS
2750 'My default for drive 2. Part of SYSTEM standards
2800 CMD"PDRIVE,0,2 TI=A,TD=E,TC=40,SPT=18,GPL=2,DDSL=17,DDGA=2,A"
2900 CLS
2950 'My default for drive 3. Part of SYSTEM standards
3000 CMD"PDRIVE,0,3 TI=A,TD=G,TC=80,SPT=36,GPL=8,DDSL=35,DDGA=6,A"
3100 END
3200 CLS:PRINT STRING$(63,143);
3300 PRINT@68,"<1> ";AA#
3400 PRINT@132,"<2> ";BB#
3500 PRINT@196,"<3> ";CC#
3600 PRINT@260,"<4> ";DD#
3700 PRINT@324,"<5> ";EE#
3800 PRINT@388,"<6> ";FF#
3900 PRINT@452,"<7> ";GG#
4000 PRINT@516,"<8> ";HH#
4100 PRINT@576,STRING$(63,143);

```

```

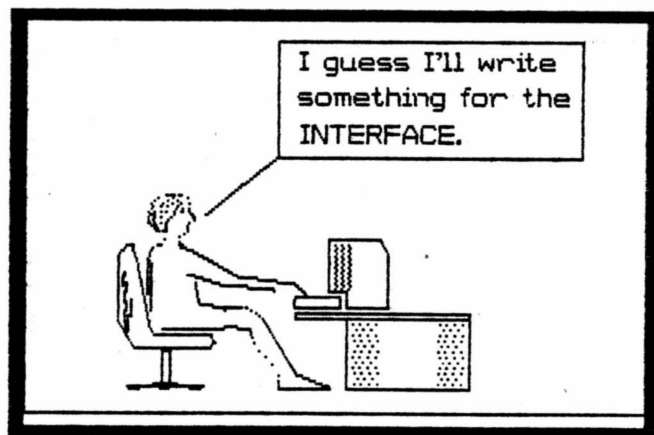
4200 PRINT@960,STRING$(63,143);
4300 PRINT@974," CHANGE DRIVE ";X$;" TO SELECTION # ";
4400 Y$=INKEY$:IF Y$=""THEN 4400
4500 IF Y$="1"THEN PRINT@770,"DRIVE "X$="AA$:GOTO 5400
4600 IF Y$="2"THEN PRINT@770,"DRIVE "X$="BB$:GOTO 5400
4700 IF Y$="3"THEN PRINT@770,"DRIVE "X$="CC$:GOTO 5400
4800 IF Y$="4"THEN PRINT@770,"DRIVE "X$="DD$:GOTO 5400
4900 IF Y$="5"THEN PRINT@770,"DRIVE "X$="EE$:GOTO 5400
5000 IF Y$="6"THEN PRINT@770,"DRIVE "X$="FF$:GOTO 5400
5100 IF Y$="7"THEN PRINT@770,"DRIVE "X$="GG$:GOTO 5400
5200 IF Y$="8"THEN PRINT@770,"DRIVE "X$="HH$:GOTO 5400
5300 GOTO 4400
5400 PRINT@960,STRING$(63,143);
5500 PRINT@974," IS THE ABOVE CORRECT (Y/N)? ";
5600 Q$=INKEY$:IF Q$=""THEN 5600
5700 IF Q$="Y"THEN 5800ELSE IF Q$="y"THEN 5800ELSE CLS:GOTO 1100
5800 CLS
5900 IF X$="1"THEN 6200
6000 IF X$="2"THEN 6300
6100 IF X$="3"THEN 6400
6200 IF Y$="1"THEN 6500ELSE IF Y$="2"THEN 6700ELSE IF Y$="3"THEN
6900ELSE IF Y$="4"THEN 7100ELSE IF Y$="5"THEN 7300ELSE IF
Y$="6"THEN 7500ELSE IF Y$="7"THEN 7700ELSE IF Y$="8"THEN 7900
6300 IF Y$="1"THEN 8100ELSE IF Y$="2"THEN 8300ELSE IF Y$="3"THEN
8500ELSE IF Y$="4"THEN 8700ELSE IF Y$="5"THEN 8900ELSE IF
Y$="6"THEN 9100ELSE IF Y$="7"THEN 9300ELSE IF Y$="8"THEN 9500
6400 IF Y$="1"THEN 9700ELSE IF Y$="2"THEN 9900ELSE IF Y$="3"THEN
10100ELSE IF Y$="4"THEN 10300ELSE IF Y$="5"THEN 10500ELSE IF
Y$="6"THEN 10700ELSE IF Y$="7"THEN 10900ELSE IF Y$="8"THEN 11100
6500 CMD"PDRIVE,0,1 TI=A,TD=A,TC=40,SPT=10,GPL=2,DDSL=17,DDGA=2,A"
6600 GOTO 11200
6700 CMD"PDRIVE,0,1 TI=AK,TD=E,TC=34,SPT=18,GPL=2,DDSL=17,DDGA=2,A"
6800 GOTO 11200
6900 CMD"PDRIVE,0,1 TI=AK,TD=E,TC=39,SPT=18,GPL=2,DDSL=17,DDGA=2,A"
7000 GOTO 11200
7100 CMD"PDRIVE,0,1 TI=A,TD=E,TC=40,SPT=18,GPL=2,DDSL=17,DDGA=2,A"
7200 GOTO 11200
7300 CMD"PDRIVE,0,1 TI=AM,TD=E,TC=40,SPT=18,GPL=6,DDSL=17,DDGA=2,A"
7400 GOTO 11200
7500 CMD"PDRIVE,0,1 TI=A,TD=G,TC=40,SPT=36,GPL=8,DDSL=18,DDGA=6,A"
7600 GOTO 11200
7700 CMD"PDRIVE,0,1 TI=A,TD=G,TC=80,SPT=36,GPL=8,DDSL=35,DDGA=6,A"
7800 GOTO 11200
7900 CMD"PDRIVE,0,1 TI=AL,TD=G,TC=40,SPT=36,GPL=8,DDSL=18,DDGA=6,A"
8000 GOTO 11200
8100 CMD"PDRIVE,0,2 TI=A,TD=A,TC=40,SPT=10,GPL=2,DDSL=17,DDGA=2,A"
8200 GOTO 11200
8300 CMD"PDRIVE,0,2 TI=AK,TD=E,TC=34,SPT=18,GPL=2,DDSL=17,DDGA=2,A"
8400 GOTO 11200
8500 CMD"PDRIVE,0,2 TI=AK,TD=E,TC=39,SPT=18,GPL=2,DDSL=17,DDGA=2,A"
8600 GOTO 11200
8700 CMD"PDRIVE,0,2 TI=A,TD=E,TC=40,SPT=18,GPL=2,DDSL=17,DDGA=2,A"
8800 GOTO 11200
8900 CMD"PDRIVE,0,2 TI=AM,TD=E,TC=40,SPT=18,GPL=6,DDSL=17,DDGA=2,A"
9000 GOTO 11200
9100 CMD"PDRIVE,0,2 TI=A,TD=G,TC=40,SPT=36,GPL=8,DDSL=18,DDGA=6,A"

```

```

9200 GOTO 11200
9300 CMD"PDRIVE,0,2 TI=A,TD=G,TC=80,SPT=36,GPL=8,DDSL=35,DDGA=6,A"
9400 GOTO 11200
9500 CMD"PDRIVE,0,2 TI=AL,TD=G,TC=40,SPT=36,GPL=8,DDSL=18,DDGA=6,A"
9600 GOTO 11200
9700 CMD"PDRIVE,0,3 TI=A,TD=A,TC=40,SPT=10,GPL=2,DDSL=17,DDGA=2,A"
9800 GOTO 11200
9900 CMD"PDRIVE,0,3 TI=AK,TD=E,TC=34,SPT=18,GPL=2,DDSL=17,DDGA=2,A"
10000 GOTO 11200
10100 CMD"PDRIVE,0,3 TI=AK,TD=E,TC=39,SPT=18,GPL=2,DDSL=17,DDGA=2,A"
10200 GOTO 11200
10300 CMD"PDRIVE,0,3 TI=A,TD=E,TC=40,SPT=18,GPL=2,DDSL=17,DDGA=2,A"
10400 GOTO 11200
10500 CMD"PDRIVE,0,3 TI=AM,TD=E,TC=40,SPT=18,GPL=6,DDSL=17,DDGA=2,A"
10600 GOTO 11200
10700 CMD"PDRIVE,0,3 TI=A,TD=G,TC=40,SPT=36,GPL=8,DDSL=18,DDGA=6,A"
10800 GOTO 11200
10900 CMD"PDRIVE,0,3 TI=A,TD=G,TC=80,SPT=36,GPL=8,DDSL=35,DDGA=6,A"
11000 GOTO 11200
11100 CMD"PDRIVE,0,3 TI=AL,TD=G,TC=40,SPT=36,GPL=8,DDSL=18,DDGA=6,A"
11200 PRINT:PRINT"          PRESS ANY KEY TO CONTINUE";
11300 U$=INKEY$:IF U$=""THEN 11300
11400 GOTO 1100

```



When I was beginning to play around with assembly language, I quickly found I had to convert decimal numbers to binary. At the time I had no calculator and had to do it by hand. Somebody told me of the "Chinese" method, so I wrote this little routine to do it for me and to demonstrate how this method works. I have no idea how it got its name or if it really has anything to do with our Asian neighbors but the name kind of stuck with me. The program uses some BASIC shortcuts which you may find interesting.

The way this method works is by consecutively dividing the decimal number by two and using the remainders as the digits in the binary conversion. For instance if we want to convert 23d:

```

23/2=11r1
11/2=5 r1
5/2=2 r1
2/2=1 r0
1/2=0 r1

```

So 23d = 10111b. Thats one 16, plus no 8, plus one 4, plus one 2, and one 1. 16+4+2+1=23. Neat huh? The subroutine below works the same way.

```

0 CLS
1 CLEAR 100:
2 INPUT "DECIMAL NUMBER";D
3 N=D/2: R=N-INT(N): D=N-R: B$=B$+" "
4 IFR,B$=B$+"1" ELSE B$=B$+"0"
5 IFD<1,7
6 GOTO 3
7 L=LEN(B$): FORX=1TOL: PRINT MID$(B$,L,1);: L=L-1: NEXT
8 PRINT: RUN 1

```

```

B$ = the binary number
D  = the decimal number
L  = the length of the completed B$
N  = a temporary quotient of D/2
R  = a temporary remainder of D/2

```

Line 3 divides the Decimal number by 2, separates the Remainder, redefines D as the the quotient without the remainder, and adds a space for easier reading.

Line 4 checks the Remainder to see if there is one (IFR will return a true or false). If there is a Remainder then a "1" is added to B\$, if not a "0" is added.

Line 5 and 6 loop until D is less than 1.

Line 7 reverses the order of B\$ and prints it. B\$ was built least significant bit to most significant bit remember.

The comma in the IF THEN statements takes the place of THEN. If you are using an ELSE you must use a THEN (or comma), however the line number after the comma will not RENUMBER.

Type in the program and try a few numbers. You will quickly see the patterns generated when dealing with base 2. Try 15 and 16, 32767 and 32768, 65535 and 65536. Ok kids, who can count to a hundred (dec.) in base 2??

Let me backtrack & use this Round to further "set the stage" for the coming mathematical discussion. So a little more talk about J.B. Rhine, who founded the "Journal of Parapsychology" in 1948, is in order.

According to the book "Psychology's Occult Doubles -- Psychology & the Problem of Pseudoscience", by Thomas & Grace Leahey, (c) 1983, Pub. by Nelson-Hall (Chicago):

"Rhine's work completely reshaped the field. In place of existing sittings with gifted mediums came the drudgery of collecting thousands of card-guesses by ordinary subjects. In place of the seance room came the laboratory. In place of ectoplasm, apports, & apparitions came statistical tests to see if 54 correct guesses out of 200 chances revealed ESP. In place of the amateurism of the psychical researchers came the professionalism of the parapsychologists. The study of the occult donned the complete garb of science."

So what was the result of all this laboratory work? Well, this is where the controversy begins. My encyclopedia quote in Round 1 would suggest that Rhine was successful in scientifically establishing that some people possess ESP. Also, here is a quote from Mrs. Margaret Knight, a leading British psychologist & lecturer from Aberdeen University:

"But as Thouless convincingly argues it is a waste of time to conduct further laborious experiments merely to demonstrate the occurrence of ESP. This has now been established beyond reasonable doubt."

But the above quote from Mrs. Knight came from a book which comes to the conclusion that ESP has not been scientifically verified at all. In other words, Mr. Hansel's "ESP--A Scientific Evaluation", (c) 1966, Pub. by Charles Scribner's Sons (New York), Lib. of Cong. Cat. #66-15979, gives Mrs. Knight's above quote on page 4, and then spends the rest of the book refuting such attitudes by exhaustively reviewing the major experiments (including Rhine's) over the years and finding fault with them. Hansel revised & extended his 1966 book in 1980, calling it "ESP & Parapsychology." There are two basic approaches that the skeptic, such as Hansel, takes. The first is exposing fraud directly, such as actually catching a medium cheating by using a phonograph record to produce the sounds in a seance, or having an accomplice in the basement rattle chains. Since most of the classic ESP experiments (Rhine's and others) took place in the 1930s, & Hansel wasn't there, he must use the second approach. The second approach is to provide a "rational reconstruction &/or explanation of a seemingly paranormal event", which of course takes into account the occurrence of the event without the presence of any ESP.

In effect, Hansel says that the statistical data generated by Rhine's experiments could have been achieved by trickery, collusion, or perhaps unconscious means -- but not necessarily paranormal means. The fact that Rhine's data sometimes was consistently so high as to be mathematically highly improbable in terms of resulting from pure chance should not make us accept an ESP explanation; it should make

8

generated

Check out our new public domain library. Make copies of whatever you like, and try it out. If you find one of the programs is a good one, write a little note for the INTERFACE to let everyone know about it. If you find a real dog, write something for the INTERFACE to WARN everybody!!

I'll bring the index for the disks we have to the meeting, but here's a short sample of what we've got:

Model III disks

Business and Home:

depreciation, amortization, metric conversion, billing, interest, general ledger, appointment book, letter writer, care of 200 houseplants, budget manager, mailing list, interest on bonds, TRS-80 accountant, ABCD database manager, microinventory, program listings from 80 micro.

Education:

antonyms, capitals, PILOT language, speed reading, T Test, constellations, morse code trainer, solar system, introduction to geometry, bilingual hangman, algebra tutorial, vocabulary, consumer education, earthquake facts, volcano facts, medical calculations, turtle graphics for the Model III.

Utilities:

31 disks full of various utilities

Model 4 disks

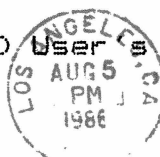
Trucker, starwarp, budget, kingdom, monopoly, biorhythm, hobbits, golf, labelmaker, easyfile, Xmodem, Xterm 4.0, calendar, alien adventure, 26 math functions, math tutor, CIA adventure, adventure compiler, Zurchan adventure, calendar printer, autodialer for Hayes modem, line editor, TRSDOS shell, home finance, package, disassembler, Creator, hangman, multiple command processor, automatic menu system, disk cataloger, hex to ASCII converter, file of words A to Z, quick reference for Dosplus, LDOS, Multidos, NewDos, MSDOS, TRSDOS 6.2, and TRSDOS 1.3

Remember, there are many programs on each disk, so we should have a lot of fun trying them all out and separating the wheat from the chaff. Go to it!!

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-- FIRST CLASS --