

JANUARY 1982

TRS-80TM NEWSLETTER

SOUTH BAY - USERS GROUP

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**Have You Paid
Your Dues For
1982?**

newsletter. This will give members one last chance to fill them out and get them in the mail. You could also give it to me at the next club meeting.

Jerry McKee brought up a very important point at the December meeting that I thought all members should be aware of. Jerry brought out the fact that bulletin board participants could elect to receive their news letter via modem. One may ask how can this be an advantage to me. I feel that the main advantage would be the ability to alter programs that were presented in articles to an executable mode using Scripsit. This will eliminate all those syntax errors one gets keying programs into their computer, and give one more interactivity with the person who wrote the article. WHAT A TIME SAVER. We also cannot ignore the fact that a member who receives the newsletter off the bulletin board need not receive a newsletter in the mail therefore saving the club almost a \$1.00 per month per member. If 100 members participated it wouldn't be long before the bulletin board payed for itself.

No user need fear losing their newsletter, because to receive the news letter via modem, from the bulletin board, will be totally voluntary.

Robert Byrd

A New Steering Committee

The results of last months election were unanimous and a decision was made that the steering committee be increased to 10 members making all nominations winners!

The committee has some good ideas for the coming year (82). Each member of the committee will give a short presentation, at the January club meeting, of his assigned duties.

**** Your New Steering Committee follows ****

Discussion Leaders:

Phil Coffman 268-6696
Mike McHenry 245-4704
Jerry McKee 245-5371
Sabri Kawash 732-5484
Bill Richerson 257-8267

Treasurer:

----- Larry Gunderson 259-5349

Newsletter Editor:

----- Robert Byrd 732-6775

Librarians:

Pete Huntsinger (disc) 227-7125
Bob Brown (tap) 379-2774
Ron Carpenter (doc.) 726-3487

If the need arises feel free to give one of us a call.

DOCUMENTATION LIBRARY

I will have a list of the *MANY* *MANY* documents currently in the library, to pass out to everyone at the meeting. I want to have everything ever printed relevant to the TRS-80 in the library! So, if there's anything not there, donate it! Or let me know and maybe I can find it and/or get the club to buy it for the library.

(To be perfectly legal, we intend to possess all originals, to be only examined by members prior to purchase!) If you want to reserve something, let me know a day or more before the meeting.

A good, cheap time to call is 11:20 p.m., if you're up that late! My home telephone: 415-726-3487

Ron Carpenter

HARDWARE GOODIES

Software Support, who has the complete 40 track BASF disk drives for \$199 (+\$10 testing/shipping), also says they have best discounts on other things like 80 track drives, model 3 systems, 3-drive package \$500. Phone: 617-872-9090. Credit cards-yes. Quantity discounts-not much. I got some of the \$199 drives; my opinion is that they are definitely 'OK', not the best, but not bad. The novel door mechanism and diskette centering seem nowhere near as solid/reliable/foolproof as on other, more expensive drives.

Hayes SMARTMODEMS (auto answer, auto tone/pulse dial): I can find them for \$200 wholesale (list is \$279). It may take several weeks to get a hold of them after cash-in-advance order, however. Direct connect, 300 baud only; they require the RS-232 option on the computer.

\$109 for a TRS-80 model 1??? Yes. Design Solutions kit (\$179 including all parts, both without the 3 ROM's). I ordered it! They say it (AN-7000) is 100.00% functionally equivalent including 40 pin rear connector, plus it has an RF modulator so it can connect to any TV antenna terminal also. It sounds like a great way for anyone without a TRS-80 to join our tremendous playground at a very low cost. Add an MDX-2 expansion interface/modem at \$75 (bare board) and how could anybody resist?????

CP/M adapter boards: Martin Data Systems (see Dec. BYTE magazine) has a very interesting one--64k and doubler support for \$200 (less software).

Modem kits \$20/\$50: I still have two, for experienced electronics people only! Also, a couple of MIMIC speech bare boards, \$20.

WANTED: I'm looking for an old Percom doubler A without the 1791 (or data seperator board that can be made into doubler) for about \$15. Ron Carpenter 415-726-3487 late eves.

Ron Carpenter

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The Electric Phone

To use the electric phone you must wire a subminiature jack in series with the redlead of your telephone. The jack should be a normally closed jack wired as illustrated in figure 1. The jack is R/S part # 274-292.

The program is loaded under BASIC using CLOAD. With the begining of each use of the program, you must have the program running and only then plug the cassette remote plug into the jack which you installed on your phone. The reason for this is if the program is not running the cassette relay will open and your phone will be disconnected.

The names are recorded in data statements in line 7000 on. To change the numbers you must type an END twice.

EXAMPLE:

```
7000 DATA GEORGE,5752532,TIME,7672222,BENNY,4542345,END,END
```

If you experience problems with a call not going through, it could be because of old phone equipment. This problem can be remedied by increasing the FOR-NEXT loops at line 6220 and 6340 by one count untill satisfactory dialing is accomplished. These vary dial pulse. You may in rare cases need to increase the FOR-NEXT loop in line 6440.

Should you wish to use the phone dialer subroutine in your own programs you must follow these steps.

1. OUT 255,4 - This closes the relay to put the phone on the line.
2. Put the number to be dialed in NU\$ and then call the subroutine at line 6000. NU\$ should include numbers (NO HYPHEN).
3. If you use the CLS command you must do a OUT 255,4 immeadiatly following it because the CLS opens the relay disconnecting the phone.

Program listing follows:

```
1 CLEAR100 'THE ELECTRIC PHONE II BY RANDY J. SCHAFER
2 POKE16553,255
5 CLS :OUT255,4:PRINT" THE ELECTRIC PHONE II "
7 PRINTSTRING$(63,"-")
10 PRINTTAB(15)" 1 = FIND A NAME & DIAL"
```

```

20 PRINTTAB(15) " 2 = DIAL SPECIFIED NUMBER"
30 PRINTTAB(15) " 3 = RE-DIAL LAST NUMBER"
40 PRINTTAB(15) " 4 = CALL LOCAL INFORMATION"
50 PRINTTAB(15) " 5 = CALL LONG DISTANCE INFORMATION"
52 PRINTTAB(15) " 6 = LIST DIRECTORY"
65 PRINTTAB(15) " 7 = QUIT"
100 PRINT"WHICH OF THE ABOVE FUNCTIONS WOULD YOU LIKE TO PERFORM"
110 PRINT@630,"":INPUTN
120 PRINT@768,""
190 IFN=7GOTO4000
200 ON N GOSUB 500,1000,1500,1700,2000,3000,3500
210 IF X>5 THEN 5
220 PRINT@768,"":PRINT@832,""
250 GOTO110
500 INPUT"WHO DO YOU WANT TO CALL";CALL$
520 READ NAM$:READ NU$:IF NAM$="END"THEN700
550 IF NAM$=CALL$THEN790 ELSE 520
700 PRINT"SORRY, THAT NUMBER IS NOT LISTED"
710 GOSUB6900
720 GOTO 825
790 GOSUB6700
800 PRINT"NOW CALLING ";NAM$;" AT ";PH$
810 GOSUB 6000
820 GOSUB 6900
825 RESTORE
830 RETURN
1000 INPUT"WHAT NUMBER DO YOU WANT TO CALL";NU$
1005 GOSUB6700
1010 PRINTTAB(15),"NOW DIALING ";PH$
1020 GOSUB 6000
1030 GOSUB 6900
1040 RETURN
1500 PRINTTAB(15),"NOW RE-DIALING ";PH$
1510 GOSUB 6000
1520 GOSUB 6900
1530 RETURN
1700 NU$="1411"
1710 PRINTTAB(10),"NOW CALLING LOCAL INFORMATION"
1712 GOSUB 6000
1715 GOSUB 6900
1720 RETURN
2000 INPUT"WHAT IS THE AREA CODE";AC$
2010 NU$=AC$+"5551212"
2020 GOSUB 6700
2030 PRINT"NOW DIALING ";PH$
2035 GOSUB6000
2040 GOSUB 6900
2050 RETURN
3000 INPUT"DO YOU WANT DIRECTORY OUTPUT TO PRINTER (Y/N)";P$
3002 CLS:OUT255,4
3005 IF LEFT$(P$,1)="Y" THEN LPRINT"NAME",,"PHONE NUMBER":LPRINT " "
3007 PRINT"NAME",,"PHONE NUMBER":PRINT " "
3010 FOR X=1TO 13
3020 READ NAM$:READ NU$:IF NAM$="END" THEN 3100
3025 GOSUB 6700
3030 PRINT NAM$,,PH$
3040 IF LEFT$(P$,1)="Y" THEN LPRINT NAM$,,PH$

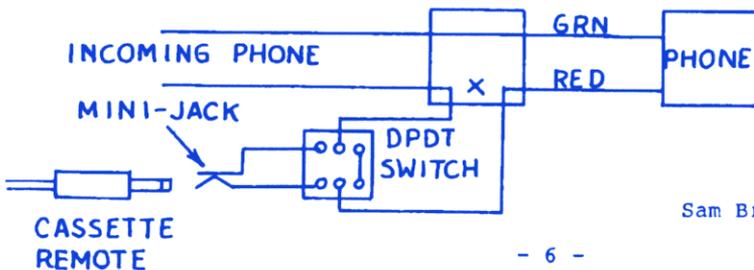
```

```

3050 NEXT X
3060 INPUT"HIT ENTER TO CONTINUE LISTING";I
3070 GOTO 3010
3100 INPUT"TYPE ENTER TO RETURN TO DIRECTORY";I
3105 RESTORE
3110 GOTO5
3500 '
4000 CLS:PRINT"GOOD BY FOR NOW FROM YOUR TELEPHONE DIALER!":
PRINT:PRINT:PRINT:PRINT:END
6000 'DIALER SUBROUTINE; NUMBER=NU$
6020 OUT255,4
6030 L=LEN(NU$)
6040 FOR E=1 TO L
6060 A=VAL(MID$(NU$,E,1))
6080 IF A=0 THEN A=10
6100 GOSUB 6200
6120 GOSUB 6440
6140 NEXT E
6160 OUT255,4:RETURN
6180 END
6200 FOR DP=1 TO A
6220 FOR T1=1 TO 1 'DIAL PULSE WIDTH
6240 OUT255,0
6260 NEXT T1
6280 GOSUB6340
6300 NEXT DP
6320 RETURN
6340 FOR PS=1 TO 1
6360 OUT255,4
6380 NEXT PS
6400 RETURN
6420 END
6440 FOR SD=1 TO 13:OUT 255,4:NEXTSD:'TIME BETWEEN NUMBERS
6460 RETURN
6700 IF LEN(NU$)=7 THEN PH$=LEFT$(NU$,3)+"-"+RIGHT$(NU$,4):RETURN
6750 IF LEN(NU$)=10 THEN PH$="("+LEFT$(NU$,3)+")-"+
MID$(NU$,4,3)+"-"+MID$(NU$,7,4):RETURN
6800 PH$=NU$:RETURN
6900 FOR X=1TO 1000:NEXTX:RETURN
7000 DATA BULLET00,2410769,CRISIS,7271640,NETS,2275416,ABBS,
3783713,RBBS,2875901,PMS,5549036,3CPMS,3700873,CIS,2495361
7001 DATA BRIAN RENKEN,9976148,JIM MAY,2472974,PAUL TRAINA,
8674133,DAVID,9265307,KEN CHABRAYA,2383104,JERRY BEIN,
2537546,WILL,2258675,KAM CHOW,9885022,ROBERT BYRD,7326775,
END,END

```

- WARNING - NOT APPROVED BY PHONE CO.



Sam Brown

THE TRUE TALE OF UPPER AND LOWER CASE

When I first acquired my Model I, I was pretty naive about the ability to display upper and lowercase letters on the screen. After some reading, some questioning and lots of advice, my first step in getting my upper/lowercase house in order was installing the electric pencil modification. Now, I had upper and lowercase letters with only a couple of dollars of parts and an hour or two of soldering and cutting traces.

The next question was, does it work with SCRIPSIT? I had by now determined that I could type faster than PENCIL and only SCRIPSIT really seemed to have all the features that I felt I wanted in a wordprocessor. Well, with some more questions, the answer was yes. The PENCIL mod works fine with SCRIPSIT, but not the other way around.

It didn't take long to decide that looking at funny letters "a" above the line and the g,q,y,p with no descenders was going to quickly drive me crazy. The next step was then to replace the original character generator IC with a new one. (I used a Radio Shack one, but the one from EBG as advertised in the magazines is cheaper and does the same job!) Now at least the screen characters began to look reasonable! Maybe the word processing function was going to be worthwhile after all.

About the time I was getting used to having upper and lowercase available in SCRIPSIT, I decided it was worthwhile to load the lowercase driver to be able to use caps and lowercase in other programming applications. For example, in PRINT statements within BASIC, or in comments in Assembly Language listings. It looks nicer and makes it easier to read!

However, everything wasn't as great as it seemed. I forgot to load the driver each time I needed it. I didn't get it protected correctly each time. I tried to list files and forgot the driver, my Stringy Floppy few bytes at top of memory killed the driver sometimes, etc.

Hardware to the rescue! I noticed an article in 80 U.S., November/December 1981, page 92, by William Bell. A hardware solution! I built the couple of ICs on a small piece of perforated board using wirewrap wire wrapped on the pins of the bare ICs and soldered neatly since they are really not suitable for wirewrap. Using a modified header, I was able to get it so it would plug into the empty ROM socket and it only required one actual soldered connection. Now I only needed to throw my UC/LC switch to LC and when I powered up, I had instant UC/LC with NO SOFTWARE DRIVER.

Well, like all good news, there is the bad news also. I still had to use a software driver when I entered UC/LC unless I wanted to hold down the SHIFT key for lowercase letters. My readout was great and I could list files from disk without worrying about drivers and wiping out things. The lowercase always printed to the CRT the way it should. (When I did a memory test, I found that I needed to throw my ELECTRIC PENCIL mod switch off - which also

turns off my hardware lowercase mod - or I couldn't pass the ROM test.) I studied the situation a couple of times and decided I knew there was a hardware solution, but never got around to putting all the pieces together.

Lo and behold, when this month's 80 U.S. arrives (January 1982--it's monthly now), there is another article by the same author, "shift for UPPERcase", page 43. I quickly gathered together the ICs and threw together another board. (I used the XOR IC and didn't use any of the extra ICs on the keyboard, so my board has four ICs on it this time.) It took quite a few connecting wires and some frustration since the schematic in the Tech Manual doesn't have the correct gate pin numbers for my keyboard, but with about 3 or 4 hours invested, I had a board which I tested with a logic probe and some input levels to make sure everything was working before I used some double-sided tape to stick it to the upper surface of the keyboard circuit board. Again, I used wirewrap wire and soldered everything with bypass capacitors at each IC power lead.

Now, when I turn things on, I have instant UC/LC with correct typewriter action! No holding down the \$\$\$! SHIFT key anymore when I forgot to load the driver! Besides, if I want to use the regular level II BASIC, I can use the Stringy Floppy which provides me with debounce and I am all set with upper and lowercase automatically. If I had a newer keyboard, I wouldn't even need the debounce in ROM provided by the stringy!

Now, when I use BASIC, or even issue commands from DOS, the screen displays lowercase. Neither DOS nor Apparat modified BASIC or Level II BASIC seems to care and when you list your BASIC program, you find that all the BASIC commands have been translated in uppercase automatically! In the PRINT statements the letters in the quotes are retained as upper or lowercase automatically.

If there's a problem, just throw the switch to the OFF position. The upper back apron of the keyboard really is a good place for switches. It drills beautifully...don't worry about cracking it; it won't crack! If you haven't put in a new RESET button there by now, you must sharpen your fingers in pencil sharpeners to get them to fit into the small hole for the RESET switch! Real professional looking! And there's a nice flat area on the upper bezel area to put neatly lettered labels for the switches. If you want to be extra fancy, you could use rub on transfers even for a more professional look.

As you see, I really recommend these modifications for those of you with some experience with I.C. construction. A word of caution! Put in the ON/OFF switch since it needs to be turned off with programs with built-in UC/LC drivers such as SCRIPSIT. If you don't have this switch...guess what! Yup, you'll have to hold down the shift for lowercase and you're back where you started! Good luck!

Ian Webb

HEXADECIMAL CONVERSION WITH POCKET COMPUTER

Vigo Smith

If you are getting into Assembly Language programming and have a TRS-80 Pocket Computer, you might find this program useful. You can enter any decimal integer from 0 to 1,048,575 and the hexadecimal equivalent (0 to FFFF) will be displayed in seconds.

```

200: "Z";J$="0";K$="1";L$="2";M$="3";N$="4";O$="5";P$="6";Q$="7";
    R$="8";S$="9"
210: T$="A";U$="B";V$="C";W$="D";X$="E";Y$="F"
220: INPUT "DECIMAL INTEGER=";H;I=1
230: H=H/16; IF H<16 THEN 250
240: I=I+1;GOTO 230
250: A(1)=INT(H);IF A(1)=0 THEN 290
260: A$=A$(10+A(1));FOR G=2 TO I+1;H=16*(H-INT(H));A(G)=INT(H);
    H=H+.00001
270: A$(G)=A$(10+A(G))
280: NEXT G;GOTO 300
290: A$=A$(10+16*H);PRINT A$;GOTO 220
300: IF I=1 THEN 350
310: IF I=2 THEN 360
320: IF I=3 THEN 370
330: IF I>4 THEN 380
340: PRINT A$;B$;C$;D$;E$;GOTO 220
350: PRINT A$;B$;GOTO 220
360: PRINT A$;B$;C$;GOTO 220
370: PRINT A$;B$;C$;D$;GOTO 220
380: PRINT "OUT OF RANGE!";GOTO 220
    
```

A few words of explanation: lines 200 and 210 set up memories J through Y (A\$(10) through A\$(25)) with the characters needed for displaying the results. Lines 230 and 240 determine the hexadecimal exponent I. Then lines 250 through 280 complete the calculation and assign the proper string characters for the display. Lines 290 through 370 produce the display. In line 260 the expression H=H+.00001 corrects for rounding errors.

Pressing <shift> Z in the DEF mode or R.200 from either the DEF or RUN mode starts the program. This starting code and location is optional, of course, and you may wish to change it.

***** For Sale *****

Microperipherals MODEM \$200. Direct connect, auto answer, auto dial. This is a special device that plugs onto the 40 pin connector & does not use the RS-232 board, nor require an expansion interface. However, it uses different port address, 208-209, so standard software won't work (it comes with software for it), and it cannot be used as a stand-alone modem. If used with the Radio Shack RS-232 board, it will allow a second! serial port to operate simultaneously. Call Dan at 244-7610 evenings.

```

10 '           HEXPAD PROGRAM
20 '
30 ' This program allows the operator
40 ' to simulate a hexpad using just
50 ' the number pad on the keyboard
60 ' to simulate the letter keys (A,B,C,D,E,F)
70 ' just press the shift key and the number
80 ' keys 1,2,3,4,5,6 respectively.
90 ' This program prints your code on the screen.
300 CLS: CLEAR 2000: I=0: M=15360
310 PRINT @960, STRING$(50, " ");
320 Z$=INKEY$: IF Z$="" THEN 320
330 IF ASC(Z$)<48 THEN Z$=CHR$(ASC(Z$)+32)
340 IF ASC(Z$)>70 THEN 400
350 POKE M,ASC(Z$) -
360 M=M+1
370 IF I>0 THEN M=M+1: I=0: GOTO 320
380 I=I+1
390 GOTO 320
400 PRINT @960, "HEX VALUES ARE 0 TO F---TRY AGAIN!";
410 FOR J=1 TO 500: NEXT J
420 GOTO 310

```

Roger Anderson

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Send Newsletter articles to:

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 Sunnyvale, Ca 94086
 (408) 732-6775

If at all possible send articles via modem or saved on disc/tap. I will see that your disc or tape is returned to you. Thanks . . .

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