TRS-80™
NEWSLETTER

FROM MICRO TO MOZART

South Bay TRS-80 Users Group

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SBUG meetings are held the 3rd Tuesday of each month in the north east corner of Dysans' building at:

    5401 Patrick Henry Drive
    Time - 7:15 to 10:30 PM   Santa Clara, Ca

May 18, June 15, July 20

Features: 1) Phil Coffman our M.C. has arranged some special
            guest speakers.
          2) Open Rap session.

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

Discussion Leaders:		SBUG-80 Username	Phone
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If the need arises feel free to give one of us a call.
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Note on SBUG-80 Host System:
RE: Entering an application for an account.

Apparently some people have been having some problems with "entering" an application for an account on SBUG-80. So, I will go over some of the basic guide lines that one should follow in order for the application to be accepted as quick as possible. First of all, the "USERNAME" and "PASSWORD" should be no more than 8 characters, UPPER CASE, and NO SPACES. A username is not your

first name! (Eg. My username is BREWER for Eric Brewer.) The applicant will also have to enter their full name, current home addres, city, state, and zip code. Also, one will be asked for their first name. This is used by the system when making any queries from the user. (NB: The "USERNAME" can be something unusual to. IE. ZAPPER, etc...) The phone number for the system is 749-0810. If you have any further questions, please, feel free to contact either Robert Byrd (EDITOR), or me, Eric Brewer (BREWER).
==

A CONTROL UTILITY FOR YOUR MX-80

When using the MX-80 with its GRAFTRAX features, I got tired of having to continually go to BASIC and look up control characters to operate the MX-80 and change the print parameters. I solved this problem with this utility program.

I chose the options that I most often wanted to use when I wrote this program. In addition, I have provided a way to reset the printer and clear all options. You do have to be aware, however, that there are some options that are not compatible with each other, but this shouldn't present a problem.

When assembling this program, you can pick your own origin based on your own system and needs. I picked F000H which keeps it below any high address driver I might have and still puts it out of the way of most programs I might be working with. If you want to put the program in with DEBUG or another monitor, you should be able to start at any address, since the program has only relative jumps in it. I have saved it as PRINTER/CMD and put it on my operating system disk. When I use it with BASIC, I have vectored the LINE command from within BASIC to access the routine. I will leave it to you to work that out for yourself if you wish to do this and perhaps poke it into memory from BASIC.

The program uses ROM calls, but might be compatible with Model III and its ROM calls. If not, it should be easy for you to look up the equivalent Model III addresses and substitute them when you assemble the program. In adapting the program for Model III, you will have to handle the sending and receiving of information to the printer. I am told that the peripherals on the Model III are addressed as ports and if this is true, you will have to take care of that in the code that addresses the printer memory address for the Model I in the program.

I hope that you will find it as enjoyable as I do to just type "PRINTER" and be able to preset the MX-80 for the modes you want. If you have forgotten to turn on the printer, the program will even remind you to do that and let you excape if you wish.

For those who wish to use the program "as is" I have given a copy of it to the disk librarian and you can get it that way if you wish.

Ian Webb

```
              00100 ;****************************************************
              00110 ;PROGRAM  TO SET MX-80 WITH GRAFTRAX TO PRINT MODES
              00120 ;*  --- PRINTER/CMD ---  IAN WEBB  3/13/82       *
              00130 ;****************************************************
              00140 ;
F000          00150           ORG    0F000H  ;STARTS HERE--USE YOUR OWN
                                             ;ORIGIN
F000 CDC901   00160           CALL   1C9H    ;CLEAR SCREEN
F003 3E00     00170           LD     A,0     ;ZEROS IN PRINTER ADDR
F005 32E837   00180           LD     (37E8H),A
F008 CD2B00   00190 START:    CALL   002BH   ;KEYBOARD INPUT SCAN
F00B FE46     00200           CP     'F'     ;IS IT F?
F00D 2816     00210           JR     Z,EXIT  ;YES, EXIT
F00F 3AE837   00220           LD     A,(37E8H) ;GET PRINTER ADDRESS INFO
F012 E6F0     00230           AND    0F0H    ;MASK TO GET HIGH 4 BITS
F014 FE30     00240           CP     30H     ;PRINTER ON?
F016 2833     00250           JR     Z,STRT  ;YES, GO AHEAD
F018 212BF0   00260           LD     HL,NOPE ;NOT ON PUT OUT MESSAGE
F01B 11003C   00270           LD     DE,3C00H ;FIRST VIDEO LINE
F01E 012000   00280           LD     BC,32D  ;NUMBER OF CHAR IN MESSAGE
F021 EDB0     00290           LDIR           ;PUT MESSAGE ON CRT
F023 18E3     00300           JR     START   ;LOOP BACK
F025 CDC901   00310 EXIT:     CALL   01C9H   ;CLEAR SCREEN
F028 C32D40   00320           JP     402DH   ;EXIT TO DOS
F02B 54       00330 NOPE:     DEFM   'TURN ON PRINTER OR KEY F TO EXIT'
F04B CDC901   00340 STRT:     CALL   01C9H   ;CLEARS SCREEN
F04E 21A5F0   00350           LD     HL,MESS ;MESSAGE ADDRESS
F051 11403C   00360           LD     DE,3C40H ;MESS DESTINATION=2ND CRT
                                             ;LINE
F054 013700   00370           LD     BC,55D  ;MESSAGE LENGTH
F057 EDB0     00380           LDIR           ;PUT MESS ON SCREEN
F059 21DCF0   00390           LD     HL,MESS1 ;SECOND MESSAGE LINE ADDR
F05C 11803C   00400           LD     DE,3C80H ;3RD SCREEN LINE ADDR
F05F 013700   00410           LD     BC,55D  ;MESSAGE LENGTH
F062 EDB0     00420           LDIR           ;MOVE MESS TO SCREEN
F064 2192F0   00430 BEGIN:    LD     HL,TAB  ;ADDR OF LOOKUP TABLE
F067 01A4F0   00440           LD     BC,TAB3 ;ADDR OF KEY CODE TABLE + 1
F06A CD4900   00450 KBD:      CALL   0049H   ;GET INPUT
F06D FE46     00460           CP     'F'     ;DONE?
F06F CA2D40   00470           JP     Z,402DH ;DONE GO TO DOS READY
F072 160A     00480           LD     D,10D   ;INITIALIZE CTR = # KEY
                                             ;POSS + 1
F074 15       00490 COMP:     DEC    D       ;STEP CTR
F075 28ED     00500           JR     Z,BEGIN ;NO MATCH AT ALL
F077 EDA1     00510           CPI            ;COMPARE,STEP HL UP, BC
                                             ;DOWN
F079 20F9     00520           JR     NZ,COMP ;NO MATCH
F07B C5       00530           PUSH   BC      ;MATCH1-SAVE BC=PTR TO
                                             ;PRINT CODE
F07C CD3A03   00540           CALL   033AH   ;SCREEN DISPLAY
F07F 3E1B     00550           LD     A,1BH   ;ESCAPE CODE
F081 CD3B00   00560           CALL   003BH   ;TO PRINTER
F084 C1       00570           POP    BC      ;GET BACK PTR CODE POINTER
F085 C5       00580           PUSH   BC      ;SAVE AGAIN
```

```
F086 0A        00590          LD     A,(BC)    ;PUT PRINT CODE IN A
F087 CD3B00    00600          CALL   003BH     ;TO PRINTER
F08A C1        00610          POP    BC        ;GET PRINT CODE AGAIN
F08B 0A        00620          LD     A,(BC)    ;PUT INTO A REG
F08C FE40      00630          CP     '@'       ;IS IT A RESET?
F08E 28BB      00640          JR     Z,STRT    ;YES, CLEAR SCREEN
F090 18D2      00650          JR     BEGIN     ;NO MATCH, GO BACK
F092 43        00660 TAB:     DEFM   'CXIERD87T';LOOKUP TABLE FOR KEYS
F09B 3A        00670 TAB1:    DEFM   ':10G@E4SP';LOOKUP TABLE FOR PTR
                                               ;CODES
0001           00680 TAB3:    DEFS   1         ;LABEL NO ON ADDR TAB1 + 1
F0A5 43        00690 MESS:    DEFM   'C)OMPRESSED X)PANDED I)TALIC
E)MPHASIZED R)ESET F)INISH' ;SCREEN MESSAGE ON LINE 2
F0DC 44        00700 MESS1:   DEFM   'D)OUBLE STRIKE  8)LINES/IN  7)/72
PER LINE  T)RS80 MODE' ;SCREEN MESSAGE FOR OPTIONS
F000           00710          END    0F000H
```
===

**** MUSIC-LOVERS, COMPOSERS AND MUSICIANS ****
SALUTATIONS!

Hello there again, remember me? No? Well then let me reintroduce
myself. I'm the friendly TRS80 user who just loves all those
expensive peripherals for the TRS80, but hates to dig into his
pocket to spend the money for it. So what I end up doing is
building my own. Perhaps most of you know me from my last article
(Feb 82) entitled "The joy of joysticking".

What am I up to now? Well, Mr Computerist, its time to turn that
homely old TRS80 into a full fledged music synthesiser! Until now
perhaps the only noise that came out of that silver and black box
was a dull hum. With this Schematic and the software available in
the Tape library you will be able to transform your TRS80, giving
it powers of articulation it never dreamed it had! Journey through
the delicate melody of Dance of the Reed pipes by Tchaikovsky
through the erratic harmony of Flight of the Bumble Bees, and into
the Majestic Tempo of Raiders of the Lost Arc! If you are a
Bulletin Board user, how many times have you looked through the
program listing available for download only to turn green with envy
at the amount of files with the extention : /ORC. Your days of
envy are over, its time to sing along with Tandy!

Before I go on I would just like to say that this is not an exact
duplicate of that "other" synthesiser but will provide the same,
exact results. You will need a copy of the music synthesiser
program from the Tape library, a fairly good amplifier and about
$21.00 worth of merchandise. The songs that run on this
synthesiser will be available in the Tape library and are 100%
compatible with the other synthesiser and vice versa. This
synthesiser will give you Mono sound (sorry stereo lovers) and No
percussion. Also, this project is somewhat more complicated than
my other project (joystick). So if you don't have basic electronic
experience I advise you against taking on this project.

Now, my Micro-Composer, it is time to raise the curtain on Music

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synthesis for the TRS-80! Here is a list of parts excluding the
software and a amplifier:

ITEM	QUAN	PRICE	R/S #
THE IC:			
74C374.................. 1........$ 2.00...--------			
IC socket			
IC socket - 20 pin...... 1........$ .59...276-1991			
Capacitor			
2.2uf electrolytic...... 1........$ .59...272-1420			
Capacitor			
.01uf disc.............. 1........$ .39...272-131			
Resistors			
22k 1/4 watt 5%......... 8........$ .78...271-1339			
Resistors			
10k 1/4 watt 5%......... 8........$ .78...271-1335			
Connector			
40-pin edge card........ 1........$ 4.95...276-1558			
Plug cable			
Audio phono plug........ 1........$ 1.89....42-2371			
Data cable			
40-conductor ribbon..... 1........$ 6.95...278-771			
Box			
good-looking box........ 1........$ 2.50...270-220-3			

WOW, that seems like a lot of money! But just remember how much
the "other" synthesiser costs! You're actually saving quite a bit
by doing it yourself.

The first thing you will need to do is to locate the IC. You will
not find this chip at Radio Shack, it is a special chip and it is
hard to find. Also notice the "C" in the middle of the numbers,
this is very important! The IC can be obtained at JDR Microdevices
which is located right next to the Radio Shack Computer Center on
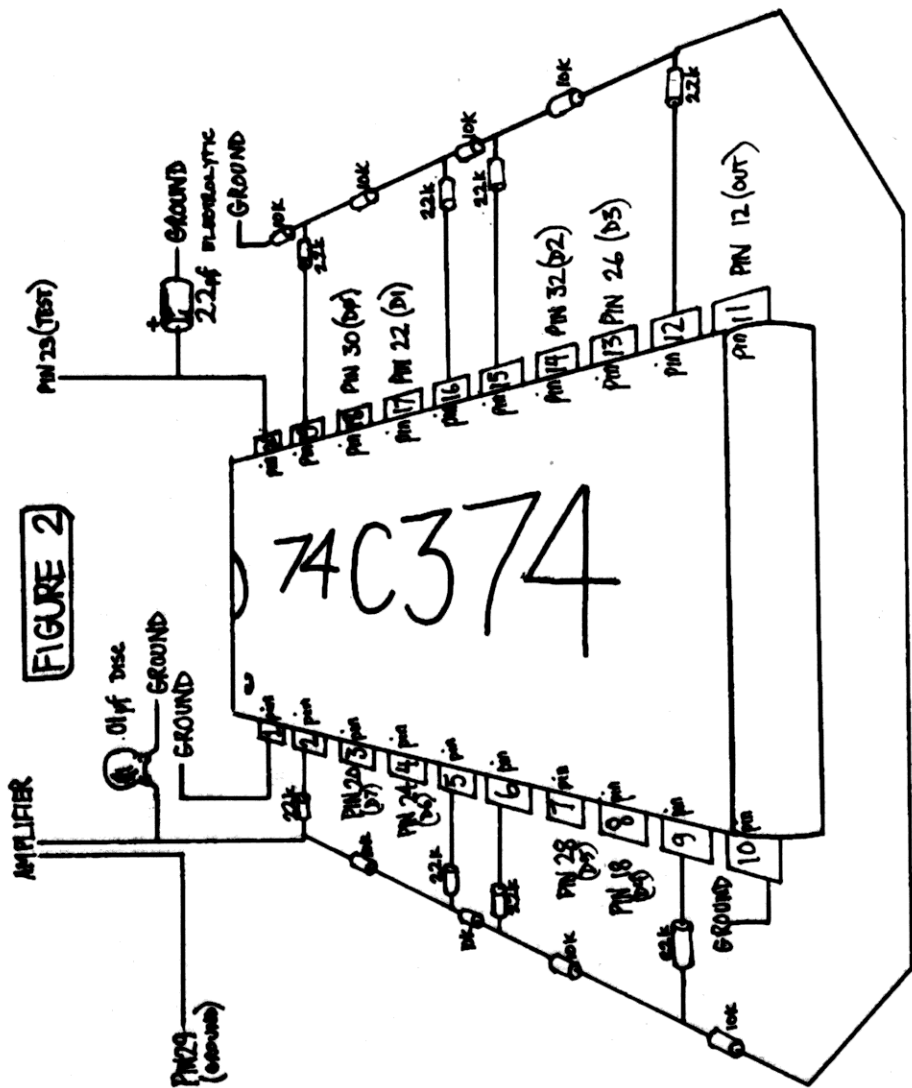Bascom:
1224 S. Bascom Av.

You should definitely mount this assembly on a circuit board and
the IC should be inserted in an IC socket (20 pin). But solder the
socket EMPTY first, then build the rest of the board and THEN,
after the board is all built, insert the IC.   The reason for this
is that the IC is VERY fragile! And soldering on or around it will
cause definite damage.

Now start making the resistor connections. Notice figure 1 & 2.
Figure 1 is called a schematic diagram and is mainly for trouble
shooting, but can be used for assembly.   However, if you are a
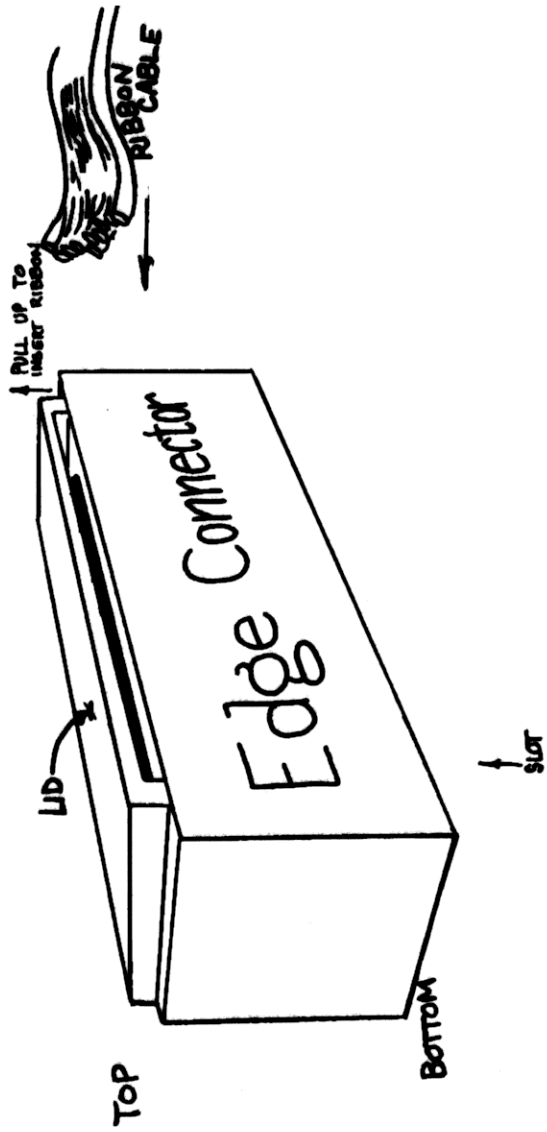beginner at all this then I recommend you use the pictorial

FIGURE 1

74C374 CMOS
OCTAL "D" LATCH
—MUST BE "C" VERSION—

ALL RESISTORS
¼ WATT 5%

CLOCKS ON ⎍

FIGURE 2

74C374

PIN 29 (GROUND)

AMPLIFIER

.01µf Disc
GROUND
GROUND
GROUND

PIN 29 (TEST)

22µf
+

GROUND
ELECTROLYTIC
GROUND

10K
10K
22K
22K
22K
10K
22K

PIN 30 (bo)
PIN 22 (b1)
PIN 11
PIN 15
PIN 14
PIN 32 (b2)
PIN 13
PIN 26 (b3)
PIN 12
PIN 11
PIN 12 (OUT)

22K
PIN 20 (b7)
PIN 24 (b6)
PIN 28 (b5)
PIN 18 (b4)
22K
10K
22K
GROUND
10K
22K
GROUND
10K

74C374 EXPANDED VIEW
FOR "PIN" LOCATIONS SEE   FIGURE 3

FIGURE 3

Edge Connector

RIBBON CABLE

PULL UP TO INSERT RIBBON

LID

TOP

BOTTOM

SLOT

PIN #

20 23 29
D7 TEST GROUND 32
19 D4 22 26 D3 30 D2
12 OUT D1 D6 D5 D8

| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 |

| 1 | 3 | 5 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 37 | 39 |

PIN #

⋈ = "spiney" things

TOP   VIEW
(WITH LID REMOVED)

PIN #'s

FIGURE   4

BACK OF AMPLIFIER

— AUX OR INPUT ← NOT SPEAKERS OR TUNER

AMPLIFIER
CONNECTION

Pin 2

SHIELDING

GROUND
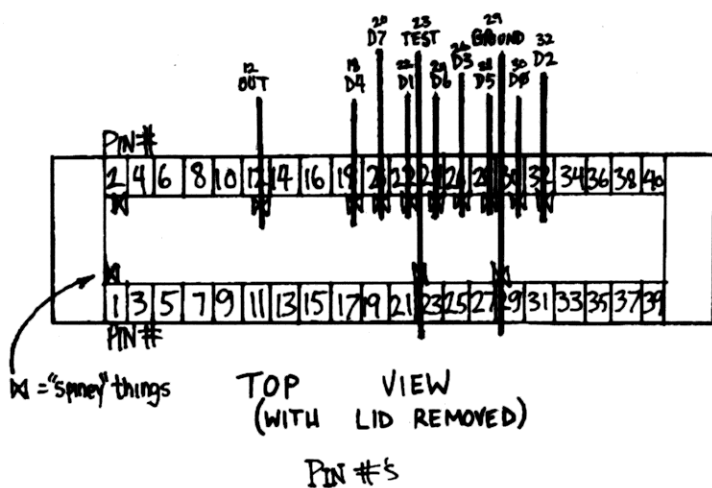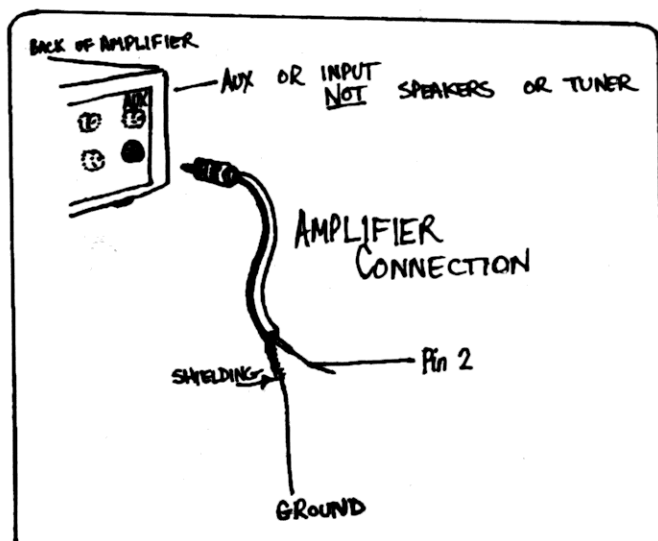
FIGURE 5

diagram, figure 2. Remember, you should be soldering the resistors to the empty IC socket. After you have made the resistor connections, start making the capacitor connections. Notice that the 2.2uf capacitor is polarized (it has a "-" and a "+" side). The positive (+) side connects to pin 20 of the IC and PIN 23 of the edge card connector (TRS80), while negative (-) goes to ground. It should be noted that all ground connections go to PIN 29 of edge connector. The disc capacitor (.01) is not polarized so it does'nt matter which way it goes.

Now to the HARD part of the assembly. As I said in my joystick article the Edge card connector assembly is the toughest part of the assembly. This is where you connect the appropriate IC pin number with the correct edge connector PIN number. Refer to figures 3 & 4 for this procedure. This procedure should be done SLOWLY and CAREFULLY and with patience! With the lid open, insert and puncture the individual ribbon cable wires onto to the coordinating PIN "spiney" thing, then just close the lid. For more reference on this type of procedure see my previous article in the Feb 82 issue of the SBUG newsletter.

Next is the Sound connection. Connect the audio phono plug shielding to ground and the phono plug signal to pin 2. Next you'll need an amplifier (it doesn't need stereo) of some sort. Connect the phono plug into the Aux input of the amplifier or any other input EXCEPT phono, tuner, or tape (speakers are OUTPUTs).

All you need to do now is to connect the 40 pin connector to the expansion port (for 16k TRS80s without expansion board) or the screen printer port (for 32k or 48k TRS80s with expansion board). Remember, all connections should be made with POWER OFF! After you have connected Synth80 up, turn your power on and observe the screen. NOTHING SHOULD HAPPEN. If you get any fluttering of the screen or anything, turn the power off IMMEDIATELY. If nothing did happen then all your connections should be all right. If anything weird happened then you should check your connections or maybe you connected it upside-down. Since this assembly is a little more complicated than the joystick conversion I am not offering to assemble it myself (I don't have the time) but if you really just cant get it to work, bring it to the club and Ill take a look at it.

If you have plugged it in and nothing went wrong then your ready for the software, available at the disk or tape library. Full documentation for entering and composing music is included.

Now, the only thing left to do is to start composing!

<div style="text-align: right">

Dave Fox
DAVEFOX @ SBUG-80

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Using NEWDOS80 V.2 Dynamic Merge and Sort Options
To Improve the Performance of the Radio Shack Budget
Management Program

I recently started using the Radio Shack Budget Management Program
to organize my personal finances. This program consists of three
major elements: 1) TRANS to enter check, deposit, charge and cash
data, 2) EDIT to edit the data, and 3) REPORTS to print reports.
To change from one element to the other it is necessary to save the
data (which takes about 1 minute), run the desired program, and
load the data again (another minute). I have eliminated the need
to save and load the data each time by using the NEWDOS80 V.2
dynamic merge basic enhancement which will overlay the desired
program elements while retaining all of the variables in memory.
It now only takes a few seconds to change from one of the programs
to any of the others.

I have also added some other features to the program to increase
its speed and utility. The data entry in line 760 has been
modified to prevent commas from being entered since they mess-up
the subsequent loading of the file. In line 5505 a POKE 14312,7 is
included to ring the printer bell (if you have one) if there is a
data entry error. Also, a POKE 14305,0 in line 9400 will keep the
drives from turning on and off during the loading of the files.
Line 9010 has been changed so that the default save file name is
the name of the last data file loaded. Type in a new name when you
start a new month! The modifications of lines 2301-3001 in REPORTS
are only for Epson MX-80 printers to give 132 colume/line and 84
line/page output.

For tax and budgeting purposes I wanted to add the feature of
summarizing all of the checks in a sorted order with subtotals for
each expense account at the end of the year. I have included an
option 6 in the REPORTS menu that will write a sorted file of all
checks and cash expenses to a file (filename/AID). The Meta
Technology AIDS3 data base system can be used to read these files
(one for each month) and combine them into a single sorted file for
the year. The MERGE3 subsystem can be used to combine 12
individual sorted files into a single sorted file with duplicate
entrys deleted (outstanding checks get carried over from one month
to the next in TRANS). The CALCS3 or CALCS4 subsystems will read
this file and print a report that lists the checks and cash
expenses by account, discription and date, with subtotals for each
account. This is very handy at tax time.

<div align="right">

Mike McHenry
MCHENRY @ SBUG-80
</div>

PROGRAM MODIFICATIONS

```
----------------------------------------------------------------
Merge these lines with EDIT
----------------------------------------------------------------
100 CLEAR(15000):DEFINTI-N:DEFSTRX '  INCREASE STORAGE FOR 48K
110 M1=99:M2=200:M3=25:M4=20:M5=M4
215 CMD"P",DELETE10000-10030
```

```
250 PRINTTAB(15)"8) LOAD REPORTS
"TAB(15)"9) LOAD TRANS"
270 IF(J=0ORJ=8)THENPRINT"HAVE YOU SAVED YOUR DATA (Y/N)";
:GOSUB300:IFYN=0THEN220ELSEIFJ=8THENGOTO274ELSEE=99:GOSUB5500
274 IF J=8 GOTO 12000 '  LOAD REPORTS
275 IF J=9 GOTO 11000 '  LOAD TRANS
760 W$=INKEY$:IFW$=""THEN760ELSEIFW$=","THEN760
9010 IFDK=1THENPRINT"FILESPEC OF OUTPUT FILE:DEFAULT FILESPEC=
";:PRINT BF$,"
";:GOSUB750:IFB$=""THENB$=BF$:PRINT:OPEN"O",DV,B$:ONERRORGOTO0ELSEPR
INT:OPEN"O",DV,B$:ONERRORGOTO0
9015 BF$=B$
9400 POKEI1,I2:POKE14305,0:RETURN '  KEEPS DRIVES ON DURING LOAD
9510 IFDK=1THENPRINT"FILESPEC OF INPUT FILE:
";:GOSUB750:BF$=B$:PRINT:OPEN"I",DV,BF$:ONERRORGOTO0
11000 CMD"F",DELETE10-10030
11010 CMD"F",DELETE12000-14000
11020 MERGE"TRANS"
11030 GOTO215
12000 CMD"F",DELETE 10-11030
12010 CMD"F",DELETE13000-14000
12020 MERGE"REPORTS"
12030 GOTO215
13000 CMD"O",K2,C2%(1),C1%(1),C3$(1),C4(1),C5%(1),C6%(1):RETURN
14000 CMD"O",CK,C5%(1),C3$(1),C2%(1),C1%(1),C4(1),C6%(1):RETURN
```

Merge these lines with TRANS

```
100 CLEAR(15000):DEFINTI-N:DEFSTRX
110 M1=99:M2=200:M3=25:M4=20:M5=M4
215 CMD"F",DELETE11000-11030
250 PRINTTAB(15)"8) LOAD REPORTS
"TAB(15)"9) LOAD TRANS"
270 IF(J=0ORJ=8)THENPRINT"HAVE YOU SAVED YOUR DATA (Y/N)";
:GOSUB300:IFYN=0THEN220ELSEIFJ=8THENGOTO274ELSEE=99:GOSUB5500
274 IF J=8 GOTO 12000
275 IF J=9 GOTO 11000
760 W$=INKEY$:IFW$=""THEN760ELSEIFW$=","THEN760
9010 IFDK=1THENPRINT"FILESPEC OF OUTPUT FILE:DEFAULT FILESPEC=
";:PRINT BF$,"
";:GOSUB750:IFB$=""THENB$=BF$:PRINT:OPEN"O",DV,B$:ONERRORGOTO0ELSEPR
INT:OPEN"O",DV,B$:ONERRORGOTO0
9015 BF$=B$
9400 POKEI1,I2:POKE14305,0:RETURN
9510 IFDK=1THENPRINT"FILESPEC OF INPUT FILE:
";:GOSUB750:BF$=B$:PRINT:OPEN"I",DV,BF$:ONERRORGOTO0
10000 CMD"F",DELETE10-9910
10010 CMD"F",DELETE11000-14000
10020 MERGE"EDIT"
10030 GOTO215
12000 CMD"F",DELETE 10-11030
12010 CMD"F",DELETE13000-14000
12020 MERGE"REPORTS"
12030 GOTO215
13000 CMD"O",K2,C2%(1),C1%(1),C3$(1),C4(1),C5%(1),C6%(1):RETURN
14000 CMD"O",CK,C5%(1),C3$(1),C2%(1),C1%(1),C4(1),C6%(1):RETURN
```

Merge these lines with REPORTS

```
100 CLEAR(15000):DEFINTI-N:DEFSTRX
110 M1=99:M2=200:M3=25:M4=20:M5=M4
120 X$=",":AD$=CHR$(25):EL$=CHR$(30):CU$=CHR$(27):BL$=CHR$(29)
215 CMD"P",DELETE12000-12030
220 CLS:PRINT:PRINTTAB(10)"BUDGET MANAGEMENT - REPORT 1.0":PRINT
240 PRINTTAB(15)"0) STOP
"TAB(15)"1) READ-IN MORE DATA
"TAB(15)"2) REPORT
"TAB(15)"3) LOAD EDIT
"TAB(15)"4) LOAD TRANS
"TAB;15)"5) SORT BY CATEGORY
"TAB(15)"6) WRITE TO AIDS FILE
265 CK=K2
280 ONJGOSUB9500,2000,10000,11000,14000,7000:GOTO220
275 REM THIS LINE IS DELETED
2301 '******************** MOD FOR MX80 PRINTERS ONLY *********
2305 IFPEEK(14312)<128THENLPRINTCHR$(15)CHR$(27)CHR$(48):
GOTO2330'MOD FOR MX80 PRINTER 132 CHAR/LINE 88 LINE/PAGE
2400 IFPEEK(16425)>84THENGOSUB2430:GOTO2340:ELSE2360
2420 GOSUB2430:GOTO2040
2430 FF%=88-PEEK(16425):FORIJ=1TOFF%:LPRINT:NEXTIJ:
POKE16425,1:RETURN
3000 POKE16424,88:POKE16425,1:PG=0:CNT=0:EOD=0:KK=0:AB=0
3001 '*********************************************************
4509 IFIO=2THENLPRINT:LPRINTTAB(25);"TOTAL=    ";Q
ELSEPRINT:PRINTTAB(25);"TOTAL=    ";Q
6120 Q=Q+C4(KK):LPRINTUSINGF$;C1%(KK);D2;D3;C$;C4(KK);
ABS(A1%(C5%(KK))):RETURN
7000 AI$="#### #### %            % #####.## ####"
7010 IQ%=INSTR(BF$,"/"):IFIQ%<>0THENFI$=LEFT$(BF$,IQ%-1)+
"/AID"ELSEIQ%=INSTR(BF$,":"):IFIQ%<>0THENFI$=LEFT$(BF$,IQ%-1)+"/AID"
ELSEFI$=BF$+"/AID"
7020 OPEN"O",2,FI$:ONERRORGOTO0
7025 J=0:CK=K2+K3:FORI=K2+1TOCK:J=J+1:C1%(I)=0:
C2%(I)=E1%(J):C3$(I)=E2$(J):C4(I)=E3(J):C5%(I)=E4%(J):NEXTI
7027 GOSUB14000
7030 FORI=1TOCK:PRINT#2,USINGAI$;C1%(I);C2%(I);
C3$(I);C4(I);ABS(A1%(C5%(I))):NEXTI
7040 CLOSE2:GOSUB135000:GOSUB13000:RETURN
9400 POKEI1,I2:POKE14305,0:RETURN
9510 IFDK=1THENLINEINPUT"FILESPEC OF INPUT FILE:
";BF$:OPEN"I",DV,BF$:ONERRORGOTO0
10000 CMD"P",DELETE10-9910
10010 CMD"P",DELETE11000-14000
10020 MERGE"EDIT"
10030 GOTO215
11000 CMD"P",DELETE10-10030
11010 CMD"P",DELETE12000-14000
11020 MERGE"TRANS"
11030 GOTO215
13000 CMD"O",K2,C2%(1),C1%(1),C3$(1),C4(1),C5%(1),C6%(1):RETURN
13500 CMD"O",CK,-C1%(1),C2%(1),C3$(1),C4(1),C5%(1),C6%(1):RETURN
14000 CMD"O",CK,C5%(1),C3$(1),C2%(1),C1%(1),C4(1),C6%(1):RETURN
```

THE PARALLEL PRINTER PORT

Do you really know what your parallel printer port is doing to your
output. When I got my new printer (a DTC 381) I found that none of
the commands that did all of those beautiful things it was supposed
to do would work. Needless to say that was a bit of a shock! Some
discussion with a technical person at DTC soon revealed that a
TRS-80 Mod I will not put out an ESC code 27. With that I looked
into the code at the port address 02D8H and found that it really
filters all codes below 28 and only puts out carriage returns and
back spaces after going through a lookup pf the number of printed
lines. In addition there seems to be no way to address a later
point in the code to bypass the filter and all of that other stuff
that I now don't need.

All of you who have other printers that do work OK out of the
parallel port have a way around that in your printer I suspect.
Brian Devendorf suggested that I try codes above 128 which would be
the original code plus 128. None of these work for me either
although I suspect that this is the way that control codes are sent
to the EPSON et al.

If any of you have written or have available an unfiltered parallel
printer driver I would appreciate hearing from you. At present I
can get things through by sending a poke 37E8H with whatever code I
want but that is a bit unwieldy.

                                              Tom Anderson
                                         ANDERSON @ SBUG-80
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Send Newsletter articles to:

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Deadline for the June newsletter is 5 June 82.

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 . . .