TRS-80™
NEWSLETTER
SOUTH BAY - USERS GROUP

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

                October 19, November 16, December 21

Features: 1) Phil Coffman is trying to arrange a representative,
             from Personal Micro Computer, to come to the
             meeting and tell us a few things about themselves.
          2) Open Rap Session...

                $$$$ Your Steering Committee $$$$

                                SBUG-80
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==
        Send Newsletter articles to:
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Deadline for the November newsletter is: 25 Oct 82.
If at all possible send articles via modem or saved on disc/tape.
I will see that your disc or tape is returned to you. Thanks . . .

OBSERVATIONS AT COMPUTER SWAP AMERICA

The computer swap at the Santa Clara County Fairgrounds this Fall (18 September) didn't seem to be as widely publicized as in the past. Several people whom I mentioned the show to said they didn't know it was being held. Maybe the promoters are trying to cut corners on publicity and hope to continue to make money from the word-of-mouth advertising crowd.

The admission wasn't exactly cheap ($5), but with the price of a movie these days, I guess it was inexpensive entertainment if you don't mind wall-to-wall crowds. The crowd seemed as large as ever, although since I didn't arrive until almost two hours after the doors opened, I didn't have to stand in the usual long line to get in.

It seemed as though there were few real bargains this year, but maybe most of the good ones were sold out the first hour. I did see MX-80 ribbon cartridges for $5 new and refills at $2 apiece, although those were sold out before I made a second loop around the displays and tried to buy some. I knew I should have bought them the first time through, but the crowds were just too big! I also saw packs of the nice plastic 2 disk binder pages at ten for $5 and then forgot to go back and buy a package before I left. (The only thing I did buy was a portable electric typewriter. My wife complains that she can't use the Epson and TRS-80 so I finally bought a decent typewriter!)

I observed one of our club members who builds up Model IIIs for resale inquiring about the $200 double sided 40 track Percom? drives that were being sold and getting the word that it was a "one time deal", but he could leave his card just in case more became available. Also noticed one of our members who already is sold on his DTC printer inspecting the competition. Saw our documentation librarian from a distance, but couldn't tell if he had added to his already extensive collection of computer hardware and gadgets. Bet he took home at least something to report to us about in the future.

One of the most interesting buys for the Model I owner was the large number of new S-100 to Model I adapters being sold by the company that marketed them for high prices in the past. The HUH large capacity units were 12 or 15 dollars apiece depending on whether you bought a kit or took a chance on the construction of one already assembled. The smaller units with lesser capacity were 5 or 7 dollars. They were more than worth it just for the cable, 2 MHz crystal and miscellaneous parts. Too bad they don't lend themselves to the Model III. Wish Tandy had brought out all the lines to the connector the way they did on the Model I.

Saw some "sold out" signs for Tandon drives in the $150 range and quite a few printers for sale at pretty good prices, including the NEC and C. Itoh PROWRITER. Quite a few private parties had drives for sale at what I considered outrageously high prices. I guess we don't like to admit that we paid too much for them in the first place or that the prices have dropped since we bought them. Seemed to be lots of "used" demonstrator EPSONS at various booths. Wonder if they're selling them out to assume a different line? Also

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seemed to be lots fewer TRS-80 machines for sale than I noticed in the past. Only a couple of Model I machines in view and one was being used to demonstrate software. Don't even recall seeing a Model III in the whole place.

I was really surprised in thinking back at the number of people selling computer equipment and parts in this area. Bet not too many people have ever heard of Alamo Electronic Components, Inc., Quiet Designs, Mari Smith Enterprises, C & M Sales, Computer Biz, Do Kay, Cal-Tex Computers Inc., Triangle Systems, or Able Micro-Computer Systems. All are San Jose area dealers whose literature I picked up. Really is interesting to see how many full time dealers and garage operations have sprung up around this business.

Ian Webb

IMPRESSIONS ON USING SUPERSCRIPSIT

I have had an opportunity to use Superscripsit for the last few weeks. (Sorry, I can't share a copy of it with anyone, please don't ask.) It is different than Scripsit to say the least and I still haven't decided if I like it better.

It will be an alternative for those people who have gone to CP/M and Wordstar because they need "hanging indents" and some of those features, but it still seems more awkward than Scripsit. Maybe that's because I can use the "old" Scripsit without thinking about the keys to press and I need more time to get used to the new version which has moved most of the keystrokes, but still uses the "at" key for a control key. An example is that in older Scripsit the control "s" is the insert and in the new one it is control "i" .... a little awkward to key in, but easier to remember.

The new Superscripsit is "menu" run. When you first boot up the disk (it only works with TRSDOS) you are presented with a menu and can choose to "open" a new document, display a directory, etc. It seems to me that most operations take an awfully long time due to the need to go back and forth through menus and to wait for disk operations. You also must specify the printer driver you are going to use. There are separate driver programs for each of the current and last year Radio Shack printers. They suggest using the Daisy Whell II driver if you are using a printer for which there is no special driver. I did modify one of the driver to allow the use of a few of the MX-80 with older Graftrax features such as underlining. I need to work on the driver more to get the half line spacing feature to work. You can also define 20 special printer code keys which I have defined with the normal Epson features such as Emphasis, Double Strike, Italics, etc. plus some of the block characters which I use to create answer boxes for student exams. When you put their special codes in the text, you don't need to worry about the justification being off if you have defined them correctly. You are able to define the special codes with any width you wish. Control codes can then be defined as zero width and if you put an expanded type code in front of each double width letter, that code can be defined as two spaces so correct justification can take place. You can use a memory feature to remember special keystroke sequences so if you routinely use a special combination of keys, you can call it with only one key and

watch it be performed automatically.

The search and replace functions require a separate menu again and I think are more awkward than the old Scripsit, although more features are offered such as choice between ignoring upper and lowercase and character by character search or only search to find as a separate word. One feature which is definitely more awkward is the lack of an easy way to chain together files. No more L,C command. You must go to a document, define a block and then go into a block command mode and then transfer that to memory. "Quit" that document, open the other document and then recall the block. Very awkward compared to the old load and chain. There is no easy way to delete to the end of the sentence as there was in the older program. You must delete a character at a time and wait for the sentence to roll by.

The new Superscripsit files are not compatible with the old files, but there is an option in the menu to convert files back and forth between the old ASCII files of the original Scripsit. There is also a compress option which is supposed to compress the file, but so far I haven't noticed any compression even when used on files of 6 or 8 typewritten pages.

When you see the screen display for the new Scripsit, you find that your screen is a window into the full width you have defined. (You can set the defaults however you like.) The screen display jumps in 8 character units to give you a window like view of the document. I find that very annoying at times and makes proofing from the display very difficult which requires defining the whole document as a block and adjusting the margins to 60 or so to fit on the screen and then readjusting back if you use a 70 character width as I usually do. With old Scripsit you could do that with a simple command. I am hoping it can be patched to use with the 80 x 24 column board I am going to install. (Perhaps I can report on that next month.)

The bottom of the screen shows you a line counter scale like you see on a typewriter. The cursor travels both across the screen where you are typing and on the line counter scale, so you may find the cursor 15 letters from the left margin on the screen and only 10 on the scale, indicating that the "real" line width is only 10 characters. This explains how a line can be different than what you see on the screen where special characters and control codes can appear. You can also turn on and off your view of the special characters such as the end of paragraph and tab characters.

You can instantly center by pressing a control C and "uncenter" by doing it again. If you start a paragraph with a given margin setting, the rest of the paragraph continues with that unless you go into a margin define mode and redefine the margin using the information at the bottom of the screen. Tab locations are defined the same way using the "+" character on the scale. There are ten different memories for different combinations that you set up within a document. The first line in the paragraph will have whatever indent or "ex"dent you have set. The resetting is really quite easy, but it is annoying for me to have to wait for the disk to whir and click before I can do some of the operations required. I wonder how much of that is due to the sluggishness of TRSDOS compared to other operating systems? Perhaps Radio Shack will

provide patches for LDOS now that they are supporting LDOS to a
limited degree. I would imagine Apparat will have a patch for
NEWDOS 80 eventually, although it probably won't support the
dictionary read from memory since that operating system doesn't
support that feature except through mini-dos.

The information at the bottom of the screen also tells you the
document name (not a full 12 characters long though) and tells you
where on the page you are at any time. You are given page number
and line number and can easily plan your pages one at a time. This
is a BIG improvement over the old Scripsit I think! Headers and
footers are easy to make also and you merely press a key
combination and are asked the usual Odd or Even type question and
then create the header or footer on the screen. You determine how
it prints when you are given a menu before printing. This is a
nice feature for those of us who remember the error messages in the
old Scripsit version when we didn't get the header or footer
specified correctly.

The new Scripsit Dictionary can be patched to be integrated into
the menu. You still, however, have to answer the question about
the name of the document you want to proof and you have to go
through each word in turn and correct it skip it or enter it in the
dictionary. You are presented with the words in context in the
document of the text to make corrections. You are also given a
word count when the document is proofread. I have had the program
crash a couple of times while using the dictionary and correcting a
word a line or two from the end. I suspect there is a bug in it.
I was not impressed with the speed of the proofreading, but it IS
better than reading it five times to try to get out most of the
errors in the "old fashioned" way.

If you have mailing lists to run or form letters to produce, this
could be the program for you. It has a built in feature which
allows you to leave blanks in the letter and provide the text or
names from another file. This way you can make form letters
changing quantities, names and other information in response to a
second file. I have used this feature to make several different
forms of the same examination for classroom use. (Yes, one student
gave me all the answers from a different form of the test!) There
are provision for linking this feature into the Profile III Plus
data base management program, although I am unfamiliar with its
use. For some this feature alone might be worth the price of the
new Superscripsit as it is only available at additional cost in
other word processing programs of which I am aware.

The new version did correct some of the problems with older
Scripsit. You no longer will find extra spaces at the left margin
since the double space between sentences wasn't recognized
correctly at the end of a line. You can also proportional space if
your printer supports that feature. I don't recall if there is a
printer driver that will support this in a dot matrix printer such
as the Prowriter. I don't immediately see how you can go from
justify to non-justify within a document. I think you would have
to make each line a separate paragraph by putting in a carriage
return at the end of each line if you wanted to "non justify" some
text within a justified document. The print command is control P
and I have more than once reached for one of the arrow keys and
accidentally entered the print menu. Somewhat annoying for us

sloppy typists.

At this point I will wait and see. I think the new version has
some nice features. The manual is good if not excellent and I
think it is an easier word processor to learn than the older
version. I wouldn't throw away the older version of Scripsit
entirely, but I suspect as I get used to the newer one it will be
used more and more in preference to the older version.

Ian Webb

F O R   S A L E

HEY! I still want to sell some things. I sold my Model I and
can't use these on the Model III. Make me an offer!

It was discussed at the last meeting. Now buy one! Stringy Floppy
for the Model I with lots of wafers and software including patches
for EDTASM and Scripsit and Superscript which allows you to access
the features of the MX 80 from Scripsit.

JPC high speed cassette unit for the Model I. Not as good as the
stringy but a LOT better than the cassette without it! Read about
it in the ads in 80 Micro.

Ian Webb (408) 867-9533
==

<<<<< ORGANIZE YOUR DIRECTORIES >>>>>
DIRALL/BAS -- DIRALL/CMD ==> @ SBUG-80

These programs will collect and organize directory data from almost
any number of diskettes. The first program to use is DIRALL/BAS.

To build a new master directory file, or add to an old one, the
letter <B> should be typed first. Each directory must be
associated with a three character disk number. Normally, when
using two sided disks, this might be a two digit number followed by
A or B. For the sorting procedure to work correctly all three
characters must be used. Thus, disk 1A should be referred to as
01A, etc. You are given the opportunity to change the name of each
disk side that is read. When you change the name, it is changed
for the purposes of DIRALL only unless you specifically ask to have
the name on the disk itself changed. Usually it is desirable to
change the name on the disk, however, in some cases you may wish to
leave on a name such as NEWDOS.

Disk directories may be entered in any order. However if more than
about 40 directories are to be entered, it is best to create a
group of separate directory files. For example, if you have 30
two-sided disks (60 directories), two files should be created, the
first including directories 01A through 15B and the second
containing sides 16A-30B. These directory files might be named
DIR1 and DIR2. After these files are created you can get a
printout of all the directories, in order by number, by using the
<M> (merge) command. This will read from several different files
to find the next lowest numbered directory to print.

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Use SCRIPSIT to delete a disk listing or a single file name from master directory files. If the list for a complete disk side is to be updated use the <B> command and then delete the given disk number and add it back in with <A>.

It takes two steps to get an alphabetized list of all the files with their disk numbers. First the <S> (sort) command must be given, followed by <F> (sort by file name). Next you will be asked for a file name. Type <DIR1> (if that's the name of your first directory file). If you are dealing with more than one directory file, you will have to create a group of alphabetized files. Use names like ALPH1, ALPH2, etc. After these files are created then the <M> command will allow you to print a complete (merged) alphabetized list of thousands of file names.

The ALPH files need not be saved for long, but the DIR files should be kept for future updates. Individual file names can be deleted or added to DIR files with SCRIPSIT. DIRALL allows you to delete and replace any disk's listing or add new directories. However each time this is done you are required to use a new output name. (The insures against accidently writing over a required file.) If a directory were to be replaced in file DIR2, an output name such as DIR2B might be used. Then after the process has been completed DIR2B could be renamed to DIR2.

An "on-line" directory may be created using DIRALL/CMD. (This FORTRAN program only runs on TRS80-I, 48K at this time.) Over 2000 file names and disk numbers may be saved in DIRALL. The commands are:

> /R (Read in a file.) Normally this is used to read in
>   the first directory file. This initializes the
>   pointers in DIRALL and wipes out all old data.
>   If, for example, you have files DIR1, DIR2, and
>   DIR3, you should type DIR1 to the next prompt.
>   When DIR1 has been read in the program will tell you
>   how many pointers have been used (n/2500) and how
>   many bytes have been used (n/19000).
>
> /A (Add a file.) Next use this command to add files
>   DIR2, DIR3, etc. Be careful not to read in any more
>   files if you think the numbers 2500 or 19000 might
>   be exceeded.
>   ######### At this point you should save your loaded
>   ######### form of DIRALL using the system DUMP
>   ######### command. Type <?> to DIRALL to see the
>   ######### exact sequence that must be entered.
>   ######### When you dump DIRALL be SURE to include
>   ######### /CMD in your file name.
>   ######### After this you will be able to look up a
>   ######### file or directory very rapidly using one
>   ######### of the following commands.
>
> XYZ This will cause a search for all file names that
>   begin with the characters XYZ. Thus a file named
>   XYZPLOT/CMD would be listed, as well one named just
>   XYZ.

.XYZ   Will find all files that have the string XYZ
        anywhere in their names. This would find XYZ/LST as
        well as LST/XYZ or F2XYZ5, etc.

  /D   Will list all the disk numbers currently resident in
        memory.

 nnn   Use this to list contents of disk side numbered nnn.

/S /L   For screen or lineprinter output.

/DEL   This allows you to delete all file names associated
        with any particular directory number. Single file
        names cannot be deleted in DIRALL. However an
        updated version of any directory can be created
        with DIRALL and then added to the DIRALL list with
        the /A command. (Then, of course, the program must
        be "dumped" again so that the changes will be found
        in the /CMD file on the disk.)

                                                Leland Smith
                                            LSMITH a SBUG-80
===

INDEX PROGRAM ON SBUG-80

I have written a data base program to keep track of all of the
programs that are being donated to the Club through SBUG-80.   This
program, called INDEX, is run by typing   DO INDEX from SBUG-80 DOS.
After the program is initialized it will prompt you with FUNCTION:
Reply with an <ENTER> and you will get the following menu:

FUNCTION :<ENTER>
<A>-list program data <A>lphabetically
<C>-<C>ontribute a program and upload
<D>-list all <D>isk names
<E>-<E>dit program data
<K>-list program data by <K>eyword search
<D>-list program data by <L>ast-in-first-out order
<N>-list program data alphabetically starting with <N>ame
<P>-list all <P>rogram names
<R>-<R>eceive a program/download
<S>-<S>top and return to SBUG-80 Ready
<W>-list all key<W>ords

I have run through some of these functions to give you an idea how
the program works and what it does. The first thing you may want
to do is get a list of the Keywords on the data base. Up to five
Keywords can be used to retrieve program descriptions from the data
base. New Keywords can be added to the system when new programs
are being contributed through the <C> command or added and deleted
using <E> for editing. The current list of Keywords is given below
by using the <W> command:

FUNCTION :W
$Keywords:
ASSEMBLER   BASIC   CATALOG   CHAINING
COMMUNICATION   DEMONSTRATION   DIRECTORY   DISK

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DOCUMENTATION	GAMES	GRAPHICS	JCL
LNW-80	LOAD80	MAIL	MODEL 1
MODEL 3	MODEM	MUSIC	MX-80
NEWDOS80	PDRIVE	PLOTTER	PRINTER
SBUG-80	SCRIPSIT	SPOOLER	TAX
TEXT	UTILITY	VIDEO	VISICALC

When entering Keywords into the program, please try to make them as descriptive as possible for aid if retrieving the program at a later time. If you change your mind and want to delete a Keyword or add more feel free to do it using <E>dit. Deleting a keyword will only remove its relation to the program unless it does not describe any others, then it is deleted from the data base.

To get an alphabetical list of all the program names in the data base use the <P> function. For example:

FUNCTION :P
Programs:

AUTODIAL/BAS	AUTODIAL/DOC	AUTOMAIL/JCL	BANNER/BAS
BBOARDS/TXT	CARMEN/BAS	CARMEN/CMD	CLOSE/CMD
COMPARE/BAS	DCLEAN/BAS	DIRALL/BAS	DIRALL/CMD
DISKDUP/CMD	DISKMAP/BAS	DRAWR/LNW	ENTERPRZ/GRF
EXPTEST/BAS	FASTMENU/CMD	FUNCPLOT/BAS	GENR/CMD
HEADER2/BAS	HILLS/GRF	HOST/CMD	HOST1/CMD
JOBS/BAS	KEY80/BAS	LINE/BAS	LINE/CIM
LNWBASIC	LOAD80/OCT	LOANAMTZ/BAS	LOWCASE/DOC
M3ZAP/JCL	MAILER/BAS	MAILERDV/BAS	MAILIST/BAS
MAXSCRPT/CMD	ORGAN/CMD	PARA/BAS	PDRIVE/JCL
PHONCOST/BAS	PRINTER/CMD	RDDIRSYS/BAS	S/CMD
SCRIP80M/JCL	SEARCH/ASM	SEARCH/CMD	SIMPZ3/CMD
SKETCH/BAS	SKETCH/DOC	SORT/ASM	SORT/CMD
SPOOL/ASM	SPOOL/CMD	SUPLIST/CMD	SUPLIST3/CMD
SYS/CMD	TAX81/VC	TERMPLUS/ASM	XMODEM/CMD
YAHTZEE/BAS			

A list of all of the Disk names is available using the <D> function. Eventually we hope to have all of the programs in the disk and tape libraries described in the data base.

FUNCTION :D
$Disks :

TAPE LIB	DISK LIB	ONLINE

The program data can be listed alphabetically by program name by using the <A> function:

FUNCTION :A
$Program: AUTODIAL/BAS $Date: 09/16/82 $Donor: EDITOR
$Reference: JOE MARRAZZO $Download Flag: 0
$Keywords:
BASIC
$Disks :
ONLINE
$Description:
This program will automatically dial your phone using
the TRS-80 model I. For more detailed information
'DFT' AUTODIAL/DOC.
$$$$$<ENTER> to Continue, <Q> to Quit, <D> to download$$$$$?
$Program: AUTODIAL/DOC $Date: 09/16/82 $Donor: EDITOR

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#Reference: JOE MARRAZZO   #Download Flag: 0
#Keywords:
DOCUMENTATION
#Disks :
ONLINE
#Description:
This is the documentation to AUTODIAL/BAS.
#####<ENTER> to Continue, <Q> to Quit, <D> to download#####? Q
FUNCTION :L
#Program: KEY80/BAS   #Date: 09/28/82 #Donor: DAVEFOX
#Reference: SOFTSIDE MAG (DEC 82 P62)   #Download Flag: 0
#Keywords:
BASIC   MODEL 1
#Disks :
ONLINE
#Description:
This program generates a job file in basic and loads it
to disc as a /cmd file. An extremely useful and time-
saving program if you dont like Job Control Language.
#####<ENTER> to Continue, <Q> to Quit, <D> to download#####?
#Program: MAXIPRINT   #Date: 09/24/82 #Donor: DAVEFOX
#Reference: PEGGYTRONICS   #Download Flag: -1
#Keywords:
MX-80   PRINTER   SCRIPSIT
#Disks :
DISK LIB
#Description:
Maxprint for Scripsit and Newdos80. Need I say more?!
Briefly MAXIPRINT is a printer controller to control the
MX-80 within Scripsit. Has proportional spacing! Available
for review in the club's disk library.
#####<ENTER> to Continue, <Q> to Quit, <D> to download#####? Q

The INDEX program automatically records the date and the name of
the donor when a program is documented or uploaded with the <C>
function. The Download Flag is an integer that keeps track of how
many times a program is downloaded from the system. If the program
is not on the ONLINE disk and it is requested this flag becomes
negative and equal to the number of requests.

Below is an example of the use of the <K> function to retrieve
program data by Keywords. A null Keyword ends the list of Keywords
for the search.

FUNCTION :K
Keyword 1 ? UTILITY
Keyword 2 ? DISK
Keyword 3 ?
#Program: DDT/BAS   #Date: 09/19/82 #Donor: GLENN
#Reference: DISCUTILITY   #Download Flag: 1
#Disks :
ONLINE
#Description:
Disc drive speed checker. Has tach type display for
adjusting speed. Tach can show speed resolution as
fine as .02 rpm.
#####<ENTER> to Continue, <Q> to Quit, <D> to download#####?

Below is an example of donating a program using the <C> function.

FUNCTION :C
Contribute
Program :TEST/CMD
Reference (30 char max) :TESTING
Keyword (15 char max) :TEST
 (New Keyword)
Keyword (15 char max) :DISK
Keyword (15 char max) :
Description (60 char/line max):
 10 >This is a test. I will now edit this file.
 20 >
DFT this program to SBUG-80 (y/n)? :n

This was just a test. You would reply <y> to the above prompt to
DFT the program to SBUG-80 using MODEM80 compatible file transfer
software. You will be returned to SBUG-80 DOS after this file
transfer. If you do not transfer the program, please go into
<E>dit and delete the ONLINE disk reference. The use of the <E>
function is illustrated below:

FUNCTION :E
Edit
Program? :TEST/CMD
CHANGE Keyword (Y/N/Q)? :Y
#Keywords:
DISK   TEST
Keyword to add or delete? :MODEL 1
<A>dd, <D>elete or <Q>uit? :A
Keyword to add or delete? :DISK
<A>dd, <D>elete or <Q>uit? :D
Keyword to add or delete? :
CHANGE Keyword (Y/N/Q)? :Y
#Keywords:
MODEL 1   TEST
Keyword to add or delete? :
CHANGE Keyword (Y/N/Q)? :N
CHANGE Disk (Y/N/Q)? :Y
#Disks :
ONLINE
Disk name :TEST
<A>dd, <D>elete or <Q>uit? :A
CHANGE Disk (Y/N/Q)? :N
CHANGE Reference (Y/N/Q)? :Y
Reference :TESTING
New Reference :This is a new reference.
CHANGE Reference (Y/N/Q)? :N
CHANGE Description (Y/N/Q)? :Y
Description
#Description:
 10 >This is a test. I will now edit this file.
<A>dd, <Q>uit, <I>nsert, <D>elete, <C>hange, <L>ist
Command :A
Description (60 char/line max):
 20 >This is how you add a new line.
 30 >Use a blank line to stop
 40 >
Command :Q
Edit

Program? :

You must use a <Q> command to exit the edit function.   You will
then be prompted for a new program name to edit. Reply with a null
line to get back to FUNCTION :

The data for a program name can be retrieved directly by using the
<N> command. It will continue to list programs in alphabetical
order until you use <Q> to exit or <D> to download.

FUNCTION :N
List Program Data
Program name :TEST/CMD
#Program: TEST/CMD   #Date: 09/26/82   #Donor: MCHENRY
#Reference: THIS IS A NEW REFERENCE   #Download Flag: 0
#Keywords:
MODEL 1   TEST
#Disks :
ONLINE   TEST
#Description:
This is a test. I will now edit this file.
This is how you add a new line.
Use a blank line to stop
#####<ENTER> to Continue, <Q> to Quit, <D> to download#####? q

Programs can also be listed in <L>ast-in-first-out order. This is
very handy to do when you first enter the program to get an update
of the latest programs that have been added to the system.

Finally, please always use the <S> function to exit the INDEX
program. If you hang-up on it, the data file will not be properly
closed and it will have to be restored from a backup.

Please give me your comments and suggestions on this program.
Leave me a message if you find and bugs.

                                                     Mike McHenry
                                                 MCHENRY 3 SBUG-80
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           UPPERCASE TO LOWERCASE MODS TO THE MODEL I

This is the first in the series of articles on making mods to the
Model I TRS-80 computer. These articles will cover the following
Mods:
        1.) The standard Radio Shack modification.
        2.) The Electric Pencil modification.
        3.) The Custom TRS-80 modification by IJG.
        4.) The Peripheral People modification.
        5.) Others

Who should make the modification ?

If the Main Processor Board in the keyboard has sockets in the
proper places and you have experience in soldering from making
kits, you will probably be ok. If you have one of the early boards
which does not have sockets, you probably should let a more
experienced person install the sockets.   I consider myself more

experienced and even I made some mistakes.

What tools do I need to make the modifications ?

As a minimum, you should have the following:
> 1.) A small tipped soldering iron of no more than 35
>   Watts.
> 2.) A small pair of longnose pliers.
> 3.) Solder, preferably the .030-.040 dia with flux
>   in it.
> 4.) Some wire. Use multi-color flat ribbon cable and
>   strip single wires off of the cable, this will give
>   you color coding for the signals.
> 5.) Either some solder Wik or a solder sucker like
>   Solderpult.
> 6.) A pair of wire strippers
> 7.) A VOM multimeter or some way of checking continuity.

The RADIO SHACK Modification:
You will need the following Electronic Parts for the
modification:
> 1.) Radio Shack character Generator PN 8046673
>   (This is optional, if you don't want to spend
>   the money, $35.00 from the Shack, you can get
>   the Exatron Generator for $9.20 I think.)
> 2.) A pair of 2102LC or 2102AN-4L ram chips. These
>   will cost anywhere from .80 to $2.79 depending
>   where you get them. The Shack has them but at the
>   higher price.

What do I do with the parts?

First take the two 2102 rams and bend pins 11 and 12 up on one of
the parts so that they are horizontal with the package. Bend them
90 degrees up.   <<Caution>> minimize the touching of the leads
because you could damage the parts with Static Electricity. After
you have one device with the leads bent, lightly slip it on top of
1the other 2102 with the two pin 1's aligned and solder all the
pins together except the two bent up ones. Use a very minimum
amount of solder on the leads otherwise the will be hard to insert
into the socket.   You should wind up with a PIGGY BACK RAM assy.

Now take some of the individual wires you have stripped from the
flat ribbon cable and solder one color to pin 11 and another color
to pin 12 (the leads which you bent up). The lengths of wire
coming off the leads should be about 6 inches long. You now have
the equivalent of the Radio Shack Assy PN 8859052.

We now have the parts ready to make the modification.
Making the PHYSICAL modification:

<<WARNING>> Be extremely careful when opening the keyboard in the
area of the flexable cable.   Handle it and bend it as few times as
possible in order to avoid opens in the lines. I will describe the
symptoms of an open cable line later.

When you remove the keyboard and processor board from the case,
open the two boards so that the components are facing up and you
can read the labels of the parts on the board.   Look for locations

Z29, Z30 Z46, Z44, Z27. These are the areas of the board you will
be working with. Locations Z46 and Z29 should have sockets in
them. Z46 is the ram chip location which will be used for your new
PIGGY BACK ASSY. Z29 is the location of the character generator
chip (it should be a Motorola chip 8046670).

Now that you know where you are, lets start making the mod. Look
between Z29 and Z30 for 3 traces. There should be 2 wide ones and
1 tiny one. The tiny one is the one we are going to cut. Take an
exacto knife and cut this trace right in the middle so as to break
the electrical connection. Make the cut as small as possible
because if you are not going to change the character generator you
will need to solder wires to these remaining small traces later in
the Pencil Mod. Make sure that any metal chips are removed to
eliminate the possiblity of potential shorts.

If you are going to replace the CHARACTER GENERATOR remove the
devices from both sockets at Z29 and Z46 otherwise only remove the
ram at Z46. Insert the new CHARACTER GENERATOR 8048873 in position
Z29 making sure pin 1 is oriented correctly. When looking at the
socket, the end which has a carved out half moon is the pin 1 end.
When looking at the device going into the socket, look for a small
circle, dimple or such right over pin 1. Replace the device you
removed from Z46 with the PIGGY BACK ASSY again making sure pin 1
is correctly inserted into the proper mating pin in the socket.
When you are finished with inserting the devices, the new Z46 will
have pins 11 and 12 pointing towards Z47.

Locate a plated thru pad next to Z44 which is hooked up to Z44 pin
13. Remove the solder from this pad and connect the wire from Z46
pin 11 to this plated thru pad. Take the remaining wire from Z46
pin 12 and solder it to Z27 pin 13.

The RADIO SHACK mod is now complete. Run the short program below
and you should see the lowercase characters appear in your monitor
in the second row down. They should be the forth set of 32 graphic
char.

Be sure you close the keyboard with the flex cable carefully. As a
safety measure, take a VOM and do a continuity check of pins 1,2
and 3 of the flex cable to make sure they are still connected. You
will know if you have an open by the following problems:
         1.) Streaks and noise on the monitor.
         2.) A key that is supposed to type + < > $ = typing
             multiple characters and characters its not
             supposed to.

Checkout Program:
```
10 CLS                          40 NEXT
20 FOR X=0 TO 255               50 GOTO 50
30 POKE 15488+X,X
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Next month we will go into the Electric Pencil Mod. If you have
any questions please contact me at SBUG-80.

William K. Jibby
JIBBYTRM a SBUG-80

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