



(157) Lehigh  
8701/8702

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## LEHIGH 99'ER COMPUTER GROUP

Next meeting: 7:30 PM, Monday  
January 19, 1987

Conference Room A-D, Second Floor  
Sacred Heart Hospital  
4th and Chew Streets  
Allentown, Pennsylvania

-READ-ME

### DISK-OF-MONTH 12/86

The December DOM is a present from TI. It is two disks, one for Extended Basic and one for Mini Memory. These programs are to test all of the computer's functions and peripherals.

The Extended Basic Version, disk TEST auto loads from disk 1 and gives you a menu of 11 tests:

0. P/CODE TEST
1. EXPANSION BOX TEST
2. IMPACT SERIAL TEST (PRINTER)
3. IMPACT PARALLEL TEST (PRINTER)
4. SPEECH TEST
5. THERMAL PRINTER TEST
6. DISK EXERCISER
7. RS232 TEST
8. MODEM TEST
9. CATALOG TEST
10. RS232 1-2 TEST
11. RS232 3-4 TEST

Most work by themselves but must be stopped using FCTN 4 (CLEAR) or turning the console off. To test each device it must obviously be connected and the disk system must be operating properly.

With the Mini memory there are two programs to run. they are DIAGNOSTICS and P/CARDS. Both of these can be loaded into the Mini Memory on a good system. You can then turn off the

system and take one of the programs with you to test the inoperative system

To load make the selection of Mini Memory. Then re-initialize it and select LOAD AND RUN. To the FILE prompt type either DSK1.DIAGNOSTICS OR DSK1.P/CARDS. When the program is loaded press ENTER to the FILE prompt and type RUN to the PROGRAM NAME prompt. You will then be running the program.

DIAGNOSTICS test the following:

1. DIAGNOSTICS
2. KEYBOARD TEST
3. SPEECH TEST
4. JOYSTICK TEST

P/CARDS Tests the following:

1. PASCAL CARD TEST
2. MEMORY EXPAN. TEST
3. RS232 INTERFACE TEST
4. CASSETTE TEST
5. BIT MAP MODE

This disk also includes three printer test Basic programs.

- PRINTER - SERIAL PRINTER
- PRINTER#2 - PARALLEL PRINTER
- TP - THERMAL PRINTER

Also included is a load program and SPEECH to test the speech synthesizer.

These should eliminate the need for programs such as the Corcomp Peripheral Diagnostic Module.

>M. De Nardo

=====SFV Times=====

```
-----%
INSIDE THE TI-99/4a      |
Hidden Statements in XBasic |
by ET AL               |
-----%
```

type RUN, the program would execute in the same way that our original program did. This was not their original intention for these functions, and that we do not recommend this type of programming method, we have used it in several programs and find it to work quite well. For your convenience, we have listed all of the hidden statements and the keys to make them operate. Try working with this yourself. If you find any other uses we missed, please let us know. Use the control key plus the listed key to get the characters in parentheses.

Some interesting facts when using the Extended Basic with the 99/4A console. For instance, try this:

```
10 FOR A=1 TO 100
20 PRINT A
30 NEXT A
```

Let's count the keystrokes ..39. Now type LIST. What we get is an exact echo of the program we typed in above. Now let's try something a little different. Type in the following: (For the purpose of the indication of when to hold down the control key and type a letter, we will use the following symbol: "@". This would mean if you see @C, you would hold down the control key while depressing the letter C on the keyboard.):

```
10 @L
20 @;
30 @V
```

Now type LIST. Your screen should read:

```
10 FOR
20 PRINT
30 NEXT
```

Now let's take this series a step further. This time let's use our old friend the REM character (!) and type the following: (Don't forget when you see the @ you must depress the control key as well as the key indicated.)

```
10 !@L A=1 @1 100
20 !@;A
30 !@VA
```

Now type LIST. As you can see, you now have our original program on your screen preceded with the (!), the REM statement. If we were to remove the (!) REM statement either manually or by using a program to do so (this can be done with a disk system only), and

```
1 (TO)
2 (STEP)
5 (:.)
6 ())
9 (OPEN)
0 (THEN)
W (READ)
E (GO)
Y (DELETE)
U (RANDOMIZE)
P (TRACE)
\ (AND)
D (IF)
F (GOTO)
J (DIM)
K (END)
Z (REM)
X (STOP)
B (::)
N (BREAK)
3 (,)
4 (;)
7 (())
8 (OPTION)
= (CALL)
Q (UNTRACE)
R (INPUT)
T (RESTORE)
I (DEF)
O (UNBREAK)
A (ELSE)
S (DATA)
G (GOSUB)
H (RETURN)
L (FOR)
: (PRINT)
C (!)
V (NEXT)
M (LET)
. (ON)
```

-----%

**PEEKs AND POKES AGAIN**  
**INSIDE THE TI 99/4A by Et.Al.**

**"USEFUL" XBASIC CALL LOADS**

- |   |  |
|---|--|
| <p>CALL PEEK(2,A,B):CALL LOAD(-31804,A,B).<br/>         Same as using the command "BYE".</p> <p>CALL LOAD(-31961,51):: END.....<br/>         Returns you to the title screen (with full graphics)</p> <p>CALL LOAD(-32630,128).....<br/>         Returns you to the title screen (with-out graphics)</p> <p>CALL PEEK(-28672,A).....<br/>         This checks to see if the speech syn. is attached. (Great for optional speech programs) If the syn. is attached Variable A returns a value of 96, if not attached, 0.</p> <p>CALL LOAD(-32699,2).....<br/>         Activates ON WARNING NEXT</p> <p>CALL LOAD(-32699,4).....<br/>         Activates ON WARNING STOP</p> <p>CALL LOAD(/32699,16).....<br/>         Activates TRACE</p> <p>CALL LOAD(-32699,64).....<br/>         Activates ON BREAK NEXT</p> <p>CALL LOAD(-31888,63,255).....<br/>         Type in this and then NEW to shut down your disk drives for those extra long basic programs to load in. see the next CALL LOAD to turn them back on.</p> <p>CALL LOAD(-31888,55,215).....<br/>         This when used with a CALL INIT first will do the opposite of the above CALL LOAD.</p> <p>CALL LOAD9(-32699,0) OR (-31931,0).....<br/>         Deletes Extended Basic protection</p> <p>CALL LOAD(-31931,128).....<br/>         Installs Extended Basic Protection</p> | <p>CALL PEEK(-31863,A).....<br/>         "A" will equal 231 if 32K is present.</p> <p>CALL PEEK(-31952,A,B).....<br/>         Is the pointer to starting address on line number table, 4 bytes per entry, (2 for number line,2 for start addr.)</p> <p>CALL LOAD(-32729,0).....<br/>         This loads any program in disk one called "LOAD"</p> <p>CALL LOAD(-31961,149):: END (OR STOP)...<br/>         Will reset the console and search for a filename on disk one called "LOAD"</p> <p>CALL PEEK(-31950,A,B).....<br/>         Is pointer to the ending address of the number line tables.</p> <p>CALL PEEK(-31954,A,B).....<br/>         Is the current line being referenced in the table.</p> <p>CALL LOAD(-31888,63,255).....<br/>         This will not reserve any room in the VDP RAM for Disk Buffers.</p> <p>CALL LOAD(-31806,16).....<br/>         THIS WILL DISABLE THE FCIN QUIT key.</p> <p>CALL LOAD(-31868,0).....<br/>         When within the body of a program, and when FCIN 4 (CLEAR) is pressed, Listing the program is impossible.</p> <p>CALL LOAD(-31878,X or (-31806,X).....<br/>         Makes all sprites &gt;X stop<br/>         XBASIC CALL LOADS TO PLAY AROUND WITH</p> <p>CALL LOAD(-31740,A,B).....<br/>         A &amp; B=Values you enter. Change the around to get different sounds. They will stay on until another sound is made (input and error beeps.)</p> <p>CALL LOAD(-31748,X).....<br/>         If you make X=0 then all tones stop, and the cursor halts. X can equal from 0 to 18 with different results.</p> |
|---|--|

DELAWARE VALLEY USERS GROUP: OCT 1986

EXTENDED BASIC ERRORS SORTED BY #  
R suffix= RS232 card errors

- 00R CAN'T OPEN DEVICE (OPEN)
- 02R BAD OPTION (OPEN)
- 06R HARDWARE ERROR, CAN'T OPEN (OPEN)
- 10 NUMERIC OVERFLOW
- 14 SYNTAX ERROR
- 16 ILLEGAL AFTER SUBPROGRAM
- 17 UNMATCHED QUOTES
- 19 NAME TOO LONG
- 20 UNRECOGNIZED CHARACTER
- 24 STRING-NUMBER MISMATCH
- 24R BUFFER TOO SMALL (INPUT)
- 25 OPTION BASE ERROR
- 26R HARDWARE ERROR OR "CLEAR" (INPUT)
- 28 IMPROPERLY USED NAME
- 36 IMAGE ERROR
- 36R HARDWARE ERROR (PRINT)
- 39 MEMORY FULL
- 40 STACK OVERFLOW
- 43 NEXT WITHOUT FOR
- 43R ILLEGAL COMMAND
- 44 FOR-NEXT NESTING
- 47 MUST BE IN SUBPROGRAM
- 48 RECURSIVE SUBPROGRAM CALL
- 49 MISSING SUBEND
- 50R CAN'T LOAD (OLD)
- 51 RETURN WITHOUT GOSUB
- 52R BAD OPTION (OLD)
- 54 STRING TRUNCATED
- 54R PROGRAM TOO LARGE (OLD)
- 56 SPEECH STRING TOO LONG
- 56R HARDWARE ERROR (OLD)
- 57 BAD SUBSCRIPT
- 60 LINE NOT FOUND
- 60R CAN'T SAVE TO DEVICE (SAVE)
- 61 BAD LINE NUMBER
- 62 LINE TOO LONG
- 62R BAD OPTION (SAVE)
- 66R HARDWARE ERROR (SAVE)
- 67 CAN'T CONTINUE
- 69 COMMAND ILLEGAL IN PROGRAM
- 70 ONLY LEGAL IN A PROGRAM
- 73R ILLEGAL COMMAND
- 74 BAD ARGUMENT
- 78 NO PROGRAM PRESENT
- 79 BAD VALUE
- 81 INCORRECT ARGUMENT LIST
- 83 INPUT ERROR
- 83R ILLEGAL COMMAND
- 84 DATA ERROR
- 93R ILLEGAL COMMAND
- 97 PROTECTION VIOLATION
- 109 FILE ERROR
- 130 I/O ERROR
- 135 SUBPROGRAM NOT FOUND

This is just a few of the dealers who supply the II 99/4(A) community. Pretty good support for an "orphan" computer!

Asgard Software  
P. O. Box 10306  
Rockville, MD 20850  
(301)345-2492

Disk Only Software  
P. O. Box 4170  
Rockville, MD 20850  
(301)369-1339  
(800)446-4462 + 897335 at tone

Millers Graphics  
1475 W. Cypress Avenue  
San Dimas, CA 91773  
(714)599-1431

Pilgrim's Pride  
P. O. Box 2  
5 Williams Lane  
Hatboro, PA 19040  
(215)441-4262

Quality 99 Software  
1884 Columbia Road #1021  
Washington, DC 20009  
(202)667-3574

Ryte Data  
210 Mountain Street  
Haliburton, Ontario K0M 1S0  
(705)457-2774

Tenex Computer Express  
P. O. Box 6578  
South Bend, IN 46660  
(219)259-7051 Information  
(800)348-2778 Order  
(219)259-7053 Order Status

Tex-Comp  
P. O. Box 33084  
Granada Hills, CA 91344  
(818)366-6631

Iriton Products Company  
P. O. Box 8123  
San Francisco, CA 94128  
(800)227-6900

DISK ERROR CODES

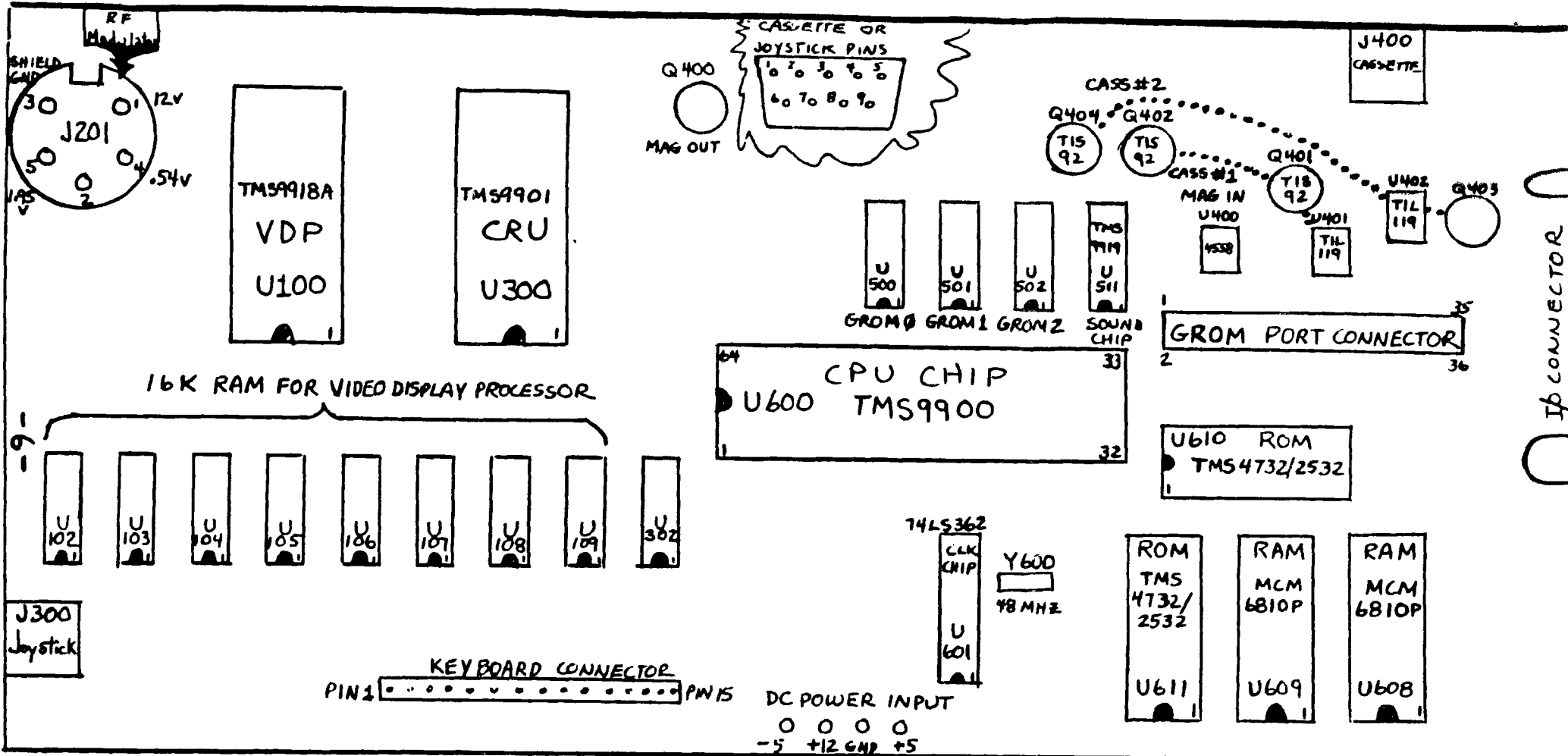
FIRST DIGIT

- 0 OPEN
- 1 CLOSE
- 2 INPUT
- 3 PRINT
- 4 RESTORE
- 5 OLD
- 6 SAVE
- 7 DELETE
- 9 EOF

SECOND DIGIT

- 0 DISK DRIVE NOT FOUND
- 1 WRITE PROTECTED
- 2 BAD OPTION
- 3 ILLEGAL OPERATION
- 4 FULL (DISKETTE OR # FILES)
- 5 ATTEMPT TO READ PAST EOF
- 6 DEVICE ERROR (NOT INITIALIZED OR HARDWARE)
- 7 BAD FILE, DISKETTE NAME, OR FILE TYPE

# GENERAL COMPONENT LAYOUT ON TI 994-A



## NOTES:

I'VE MADE THIS LAYOUT, USING BOTH SAM'S PHOTO-FACTS, AND THE SCHEMATICS THAT I BOUGHT FROM T.I.. THIS IS BY ALL MEANS NOT THE ENTIRE PICTURE OF THE 99/4A, BUT IF YOU HAVE A SLIGHT FAMILIARITY WITH ELECTRONICS, AND SOME EQUIPMENT, AS WELL AS ACCESS TO SOME OF THE CHIPS OR OTHER COMPONENTS, YOU JUST MIGHT BE ABLE TO TRACK DOWN A PROBLEM WITH YOUR CONSOLE, AND SAVE YOURSELF NEARLY \$40.. I HAVE FIXED 8 CONSOLES IN THE LAST 5 MONTHS, AND JUST AS A POSSIBLE AID, I'LL GIVE YOU THE COMPLAINT, AND THE FIX. NO VIDEO, OR A LOT OF SNOW WITH WEAK SIGNAL = DEFECTIVE RF MODULATOR (OR BROKEN WIRES). BLACK SCREEN WITH LOUD NOISE = ANY OF THE GROMS PARTICULARLY GROM 1, OR A DEFECTIVE CARTRIDGE. TITLE SCREEN BROKEN OR PROGRAM OPERATES STRANGELY = NEARLY ALL OF THE ABOVE CONDITIONS CAN BE CAUSED BY A DEFECTIVE VDP CHIP OR THE 8 RAM CHIPS. I'VE ALSO HAD THE CONSOLE WORK FINE, BUT WHEN HOOKED UP TO A PEB, PROBLEMS WITH SYSTEM HANGING OCCURRED BECAUSE OF A DEFECTIVE I/O PORT TRANSCIEVER CHIP. YES THERE IS A LOT TO TROUBLESHOOTING A CONSOLE, AND THIS IS MADE MORE DIFFICULT BY THE FACT THAT TI DID NOT SOCKET ALL OF THE MAJOR CHIPS. IF IT IS NOT THE VDP, THE 3 GROM CHIPS, THE SOUND CHIP, AND SOMETIMES THE CLOCK CHIP, WHICH ARE THE MOST COMMONLY SOCKETED CHIPS, YOU MAY WISH TO HAVE AN EXPERT FIX YOUR MACHINE.

GOOD LUCK! JOHN F. WILLFORTH

WEST PENN 99'ERS CLUB  
JEANNETTE, PA.

• • Topics - LA 99ers • •

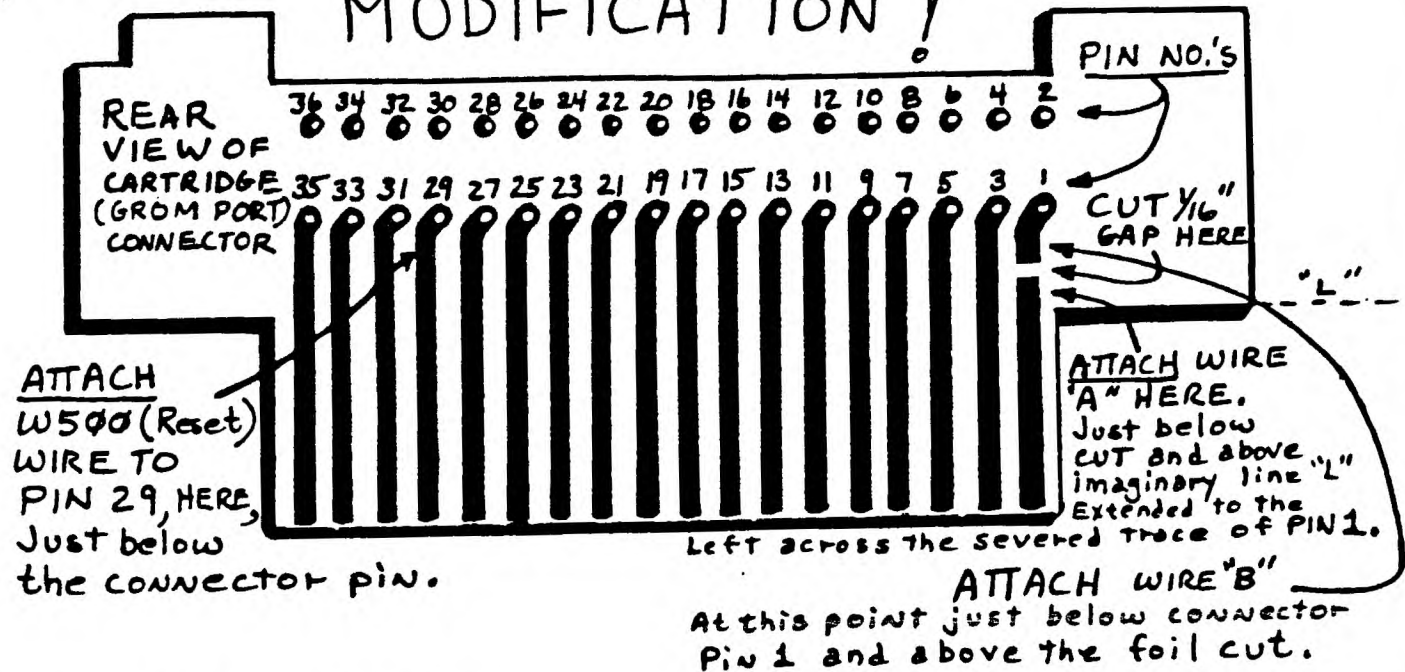
**DISK DRIVE SPECIFICATIONS**  
**VERSION 1.1, SEPTEMBER 12, 1985**  
**by Louis Gulon, Startext 77536**

MANUFACTURER	MODEL NUMBER	HIGH	SIDE DENS	TPI	BYTES	5 V PWR	12V PWR	ACCESS TIME	MOTOR DRIVE	COMMENT
AlpsElectric	FDD2225	1/2								
Canon	MD0211	1/2	DSDD	48	360K					
C.D.C.	9409	Full	DSDD	48	360K					
C.D.C.	9428	1/2	DSDD	48	360K				Direct	
Epson	SD521	1/2	DSDD	48	360K	.4A	.4A	6MSEC	Direct	O.K. in PBox
Hitachi	HF0505B	1/2								
Matsushita	JA551	1/2								
Matsushita	JA551-2	1/2								
Micropolis	1115V	Full	DSDD							
Mitsubishi	M4851	1/2	DSDD	48	360K					
Mitsubishi	M4853	1/2	DSDD	96	720K	.5A	.7A			
MPI	851	Full	SSDD	48	90K				Belt	Sold in PBox
MPI	852	Full	DSDD							
MPI	501C-200	1/2								
MPI	502B-100	1/2	DSDD							
National	JA551-2	1/2	DSDD	48	360K					
Panasonic	JA551-2	1/2	DSDD	48	360K			6MSEC		
Qumetack	142	1/2	DSDD	48	360K				Belt	Hi Pwr Reqrd
Qumetack	142LX	1/2	DSDD	48	360K					
Qumetack	542	Full		48						
Resax	RFD480	2/3	DSDD	48	360K				Direct	
Sanyo	FDA5200B/PC	1/2	DSDD	48	360K					
Sanyo	SM548D	1/2	DSDD	48	360K			6MSEC	Direct	
Shugart	400L	Full	SSDD	48	90K				Belt	Sold in PBox
Shugart	SA455	1/2	DSDD	48	360K	.6A	.6A	6MSEC		O.K. in PBox
Shugart	SA465	1/2	DSDD	96	720K					
Shugart	SA475	1/2		96	1.6M					For the "AT"
Siemens	FDD100-5	Full	SSDD	48	90K				Belt	Sold in PBox
Tandon	TH50-1	1/2	SSDD							
Tandon	TH55-2	1/2	DSDD	48	360K			6MSEC		
Tandon	TH55-4	1/2	DSDD	96	720K					
Tandon	TH65-2L	1/2								
Tandon	TH100-1	Full	SSDD	48	180K				Belt	
Tandon	TH100-2	Full	DSDD	48	360K				Belt	
Tandon	TH101-4		DSDD							
TEAC	FD55A	1/2	SSDD		180K			6MSEC		
TEAC	FD55B	1/2	DSDD	48	360K	.4A	.3A	6MSEC	Direct	O.K. in PBox
TEAC	FD55BV-06	1/2	DSDD	48	360K			6MSEC	Direct	No Hd Ld Sol
TEAC	FD55E	1/2	SSDD	96	300K			3MSEC	Direct	
TEAC	FD55F	1/2	DSDD	96	1M			3MSEC	Direct	
TEAC	FD55GFV-AT	1/2	DSDD	96	1.2M					For the "AT"
TEC	FBS03	1/2	SSDD	48	90K				Direct	2-OK. IN PBOX
Toshiba	5401		DSDD							
Toshiba	ND04D	1/2								
Toshiba	ND040T	1/2	DSDD							
Y.E.Data	YD580	1/2								

This information is intended to help TI-99/4A users in identifying disk drives that may be compatible with their Peripheral Expansion Boxes and with their present disk systems. Since all information had been garnered from vendor advertisements, it is assumed to be correct, but must, none-the-less be used with caution due to transcription and other typographical errors.

If any reader can in any way add to the information presented, please do so by contacting the author at Startext MC 77536. Your help is appreciated!

# RESET SWITCH, CARTRIDGE INSERT BUT NO RESET MODIFICATION!



## ONE SWITCH OPTION:



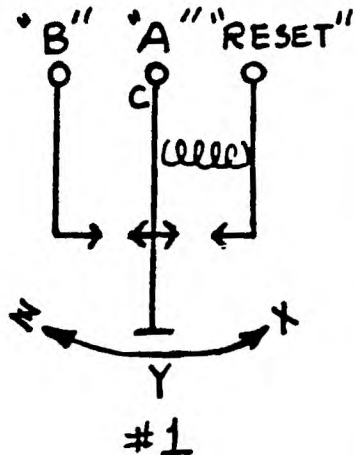
This switch exists but is relatively hard to find. Commonly used in MINI-COMPUTERS DURING THE 60's and 70's. SURPLUS GOOD SOURCE.

## OPTION:

This switch actually has 3 positions:  
 Y = Center position, allows for you to insert cartridge into your console with no reset occurring. (useful for cartridge or screen dumps of cartridges)

X = Push and release allows the console to receive a reset (useful for freeing a locked console, without powering the console off.)

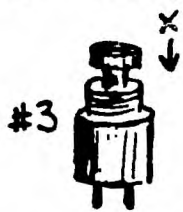
Z = Normal (switch stays in this position when selected) PUTS the cartridge slot back into the mode that T.I. originally designed.



## TWO SWITCH OPTION: (IF YOU CAN'T FIND THE SWITCH SHOWN ABOVE)

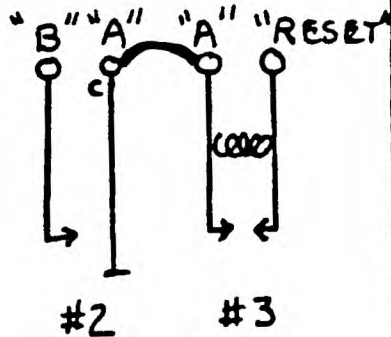


THIS SWITCH NEEDS ONLY TO BE SINGLE THROW, SINGLE POLE. (EITHER AN OPEN OR CLOSED CIRCUIT)



THIS IS A MOMENTARY CONTACT SW. JUST TAP IT TO CLOSE THE CONTACTS BRIEFLY

These 2 switches now can function the same as the single switch above. WIRE "A" WILL BE ATTACHED TO ONE SIDE OF THE TWO SWITCHES.



- FEATURES:
- RESET BUTTON FOR CPU WITHOUT SHUTTING OFF CPU.
  - CARTRIDGE INSERTION WITHOUT RESET (CARTRIDGE DUMPS).
  - NORMAL OPERATION NOT MODIFIED.

This is the easiest hardware modification I've written about yet. TRY IT, YOU'LL LIKE IT! (Your Responsibility) John F. Willforth (412) 527-6656


FROM THE LONG ISLAND 99'ER, AUGUST 1986  
Randy's RumOR RaG by Randy Ainsworth

WARNING!!!!!!!

Beware of a program which may be floating around the country's BBS's called SUPERTRACK. At first appearance, it seems to be a track copier, but in reality is a disk eater.

This program was uploaded to my BBS recently and I suspect that it will show up around the country.

I was suspicious at the first because the program tells you to remove the write-protect tape from your master disk. I could not understand why this would be necessary so I stuck two junk disks in my drive.

When the program starts, BOTH drives come on and the heads chatter like crazy. Whatever was on your disks is now in byte . Your disks are zapped and I doubt that the action the heads are getting is doing them any good also. The noise is quite loud.

I have heard of similar programs for IBM which will zero-out a hard drive, but this is the first one I've seen for the TI.

I just wanted to warn everyone so that no valuable program or data will be lost.

FROM THE SUNCOAST BEEPER

The SURGEON GENERAL has determined that COMPUTERS can be hazardous to your marriage and has issued the following self-test questionnaire. If you can answer Yes to ANY of the following questions, then perhaps you are spending too much time at the keyboard and you might start paying more attention to your mate. Remember, this little quiz can only pin-point a potential problem if you are totally honest in your answers.

1. Does your mate let the kids use your floppy disks for Frisbies?
2. Do you ask "what's for dinner?" and you are served a plate of broken up game cartridges?
3. Because the peripheral box fan is too loud and your mate can't get to sleep, does he/she shove a pencil through the back of your P-box, stopping the fan?
4. After being called to dinner 3 times and each time answering with "I'll be there in a minute", does your mate come into your computer room and dump a serving size spoon of tuna casserole on top of your console?
5. When the bedroom window keeps falling down, does your mate use your console as a window prop?
6. Do you thing the kids are spending too much time with the computer, because they start listening to program cassettes on their portable stereos?
7. In divorce court, the ONLY thing your mate doesn't demand half of is your computer?