

PEEKs AND POKES

This file was downloaded from the TI Forum section of CompuServe. It is the most extensive list of peeks and pokes I've seen for the TI.

24K OF DATA STORAGE

If you need to work with quite a bit of data or would like to change programs, but save the data after you press CALL QUIT then you can set up the 24K of High-Memory in the PEB as a single data file called "EXPMEM2". You open this file just as you would a disk file with one exception-you must precede the OPEN statement with a CALL LOAD to the location -24574 as follows:

```
For INT/VAR files - 24
For DIS/VAR files - 16
For INT/FIX files - 8
For DIS/FIX files - 0
```

For example: if you want to open up the Expansion Memory for Display, Variable 80 files this is what you'd do:

```
100 CALL INIT
110 CALL LOAD(-24574,16)
120 OPEN #1:"EXPMEM2",RELATIVE,UPDATE,DISPLAY,VARIABLE
80
```

Then continue on as you normally would. If you want to store both data and assembly language routines at the same time do this:

```
100 CALL INIT
110 CALL LOAD(-24574,-16)
120 OPEN #1:"EXPMEM2"
130 CALL LOAD ("DSK1.ASSM1")
140 CALL LOAD ("DSK2.ASSM2")
150 CALL LINK ("START")
160 REM REST OF PROGRAM
```

In the above example the 24K of high memory was saved for use as a DATA file (DIS/VAR 80 format) then the Assembly routines were loaded. The computer will look for the best place to put the routines and will adjust the pointer accordingly. After the routines are loaded, a LINK statement starts the first routine and off we go. If that's not enough for you, you can also use the MINI-MEMORY for 4K more of storage of Assembly routines! Now that's 16K of program space, 12K of Assembly routine space!

Loads & Peeks

From the Aloha 99/4A Newsletter

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The following is a complete list of all the Peeks Pokes that was compiled from various newsletters and individuals that have shared this information with our organization. The use of the values may/may not work with your system! The 99/4A was produced thru the years with approximately six different operating systems. Although programs are compatible between the machines the SPECIFIC ADDRESS of the consoles built-in routines may be different. These values are for use with Extended Basic and 32K memory expansion (be sure to do a "CALL INIT"). The A B variables are used for "CALL Peek - the numbers are for "CALL LOAD" and "CALL POKE" (Note: POKE was not made available in XB, Use E/A Cart and go into TI-BASIC).

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ADDRESS	VALUE(S)	DESCRIPTION
=====	=====	=====
8192 , A		PEEK - IF A<>70 OR A<>121, then do a CALL INIT.
8194 , A		PEEK - A=First free address in low memory
	, A,B,C,D	(C-A)6+D-B = Free space in low memory after CALL INIT or CALL LOAD("DSKn.x")
8196 , a		PEEK - A=Last free address in low memory
8198 , A,B		IF A/B=2 OR A6+B=43605 OR IF A=170 AND B=85 then CALL INIT has been executed.
-26624 , A		GROM INCREMENT (Lock Up).
-25598 , A		GROM BRANCHING (Lock Up).
+26022 , 1		FLIP PAGE IN CARTRIDGE (Lock Up).
-27648 , x,x,x		Speech Chip Location.
+28672 , 1		FLIP BACK PAGE IN CARTRIDGE (Lock Up).
-28672 , A		PEEK - IF A=96 OR A=255 (Speech Syn is attached) IF A=0 OR A=127 (No Speech Syn.).
,90,165,255,80,15,		Saves Program to disk
248,0,80,15,248,0		with MINIMEM.
0,1,27,49,11,48,		OLD MINIMEM-SAVE DSK1.xxxxxxxxxxxx
16,63,255,165,90		Reloads from disk... OLD DSK1.xxxxxxxxxxxx
		Save MINIMEM, THEN #.
-31572 , 0 to 255		Vary Keyboard Response.
-31700 , 4		Last Sound On
-31721 , A		Sound Chip On.
-31730 , 33		Quit returns back to Title Screen.
-31740 , A,B		Changes BEEPS, WARNING, ETC...
	, 192	No Auto SPRITE MOTION or SOUND.
	, 244	Normal Operation.
	, 255	Magnified SPRITE(s).
	, 226	Double Sized SPRITE(s).
	, 227	Magnified Double Sized SPRITE(s).
	, 232	Multicolor Mode (48 x 64 Squares).
-31744 , A		Cursor Flashing and Response Tone Rate (0 to 255 ... 1=Normal)
	, 0 to 15	Continuation of Last sound (0=load 15=soft).
-31745 , 0		Freeze screen then blank it out (restore screen by pressing FCTN-)

ADDRESS	VALUE(S)	DESCRIPTION
=====	=====	=====
-31748	, A	Cursor Flashing and response tone rate (A=0 to 255... 1=Normal).
-31788	, 160	Activate Save Function (Must press a key to activate).
	, 192	Auto SPRITE motion and SOUND off.
	, 224	Normal Operation.
	, 225	Magnified SPRITE(s).
	, 226	Double sized SPRITE(s).
	, 227	Magnified and Double sized SPRITE(s).
	, 232	Multicolor Mode (48 x 64 squares).
-31794	, A	Timer for CALL SOUND (counts from 255 to 0).
-31803	, 35	Quit to Title Screen.
-31804	, A,B	Return to Title Screen (use Peek(2,A,B)).
	, A	Cursor Flash Rate (0 to 255)
	, 160	Restart Program From module.
-31806	, 0	Normal Operation
	, 16	Disables Quit Key (FCTN =).
	, 32	Disables Sound (use NEG duration for continuous sound).
	, 48	Disables Sound and (FCTN =) Quit Key.
	, 64	Disable Auto SPRITE Motion.
	, 80	Disable SPRITES and Quit Key (FCTN =).
	, 96	Disable SPRITES and SOUND.
	, 128	Disable SPRITES, QUIT KEY, and SOUND.
-31808	, A,B	PEEK TO DOUBLE RANDOM NUMBERS (0 TO 255) NEED "RANDOMIZE".
-31848	, A	IF A=170 then CALL INIT has been executed.
-31860	, 4	Go from XB to TI-Basic ("NEW" needed).
	, 8	Auto run of "DSK1.LOAD".
-31862	, 128	Reboots XB and Runs "DSK1.LOAD".
-31863	, A	IF A=231 THEN 32k is present.
-31866	, A,B	End of CPU Program Address (A6+B). (A6+B)/41023 = Free Space in High memory.
	, 33,0	Add 8k to Expansion Size.
	, A	Reduce Access to 32k (1-159) First BASIC token.
-31868	, 0	No "RUN" or "LIST" after FCTN 4 or Break is used.
	, 0,0	Then RUN "DSKn.xxxx" Turns off 32k
	, 255,231	Then RUN "DSKn.xxxx" Turns on 32k
-31873	, 3 to 30	Set screen Column to start at with "PRINT".
-31877	, A	VDP STATUS REGISTER A=128, 60HZ VDP INTERRUPT, A=32 = SPRITE COINCIDENCE, A=64 = 5 SPRITES on a line.
-31878	, A	Highest SPRITE in MOTION
	, 0	Brings all SPRITES to immediate stop. Placing a value here from 1 to 28 allows only the SPRITE numbers equal to or less than that number to have auto-motion, 36= Invisible cursor.
-31879	, A	Timer for VDP, Interrupts every 1/60 sec. (0 to 255).
-31880	, A	RANDOM number (0 to 99) need "RANDOMIZE".

ADDRESS	VALUE(S)	DESCRIPTION
=====	=====	=====
-31884	, 0 to 5	Change keyboard mode (Like "CALL KEY(K,...)").
-31887	, A	VDP STATUS REGISTER A=32 - SPRITE COINCIDENCE, A=64 - 5 SPRITES on a line, BIT 0=The 60Hz Interrupt, BIT 1=64 if more than 4 SPRITES in a row, BIT 2=32 IF there is a SPRITE coincidence, BIT 3 thru 7 contains the Hex value of the Fifth SPRITE in the row (BIT 1 must be on (=1))
-31888	, 55,215	Enable all disk drives (use "NEW" to free drives)
	, 57,221	Equals CALL FILES(2)
	, 59,227	Equals CALL FILES(1)
	, 63,255	Disables all disk drives (use "NEW" to free drives).
-31931	, 0	Removes the protection of a file saved, SAVE "DSK1.HIDE",PROTECT, with the protect option.
	, 2	SET "ON WARNING NEXT" Command.
	, 4	SET "ON WARNING STOP" Command.
	, 14	SET "UNTRACE" Command.
	, 15	SET "UNTRACE" and "NUM" Commands.
	, 16	SET "TRACE" Command.
	, 64	SET "ON BRAKE NEXT" Command.
	, 120	Results in displaying '* DONE *' in XB.
	, 128	Enables the XB protection similar to SAVE "DSKn.xxxx",PROTECT.
-31932	, 0	Remove ready stops execution.
-31936	, A,B	A6+B-2487 = Exact amount of free stack space while the program is running. Does not count the garbage collection area as used.
-31950	, A,B	A6+B +End of line number table. points to the last byte of the line number table.
-31952	, A	If A=55 the 32k is off else it is on.
	, A,B	A6+B =Start of line number table. Without memory expansion, this points into high memory expansion.
-31954	, A,B	A6+B = The memory address of the pointer to the current line being executed. CALL PEEK(A6+b-65536,C,D) :: C6+D = Start address of current program line being executed.
-31961	, 51	Return to Title Screen.
	,	Restarts XB and runs "DSK1.LOAD".
-31962	, 33,111	Goes directly into BASIC.
	, 99	Deletes program from memory "NEW".
	, 99,114	Restarts XB and runs "DSK1.LOAD".
	, 100,155	Executes "RUN" command.
	, 100,124	Executes "NEW" command.
	, 100,126	Executes "CON" command - From command mode only.
	, 100,128	Executes "LIST" command - From command mode only.
	, 100,130	Executes "BYE" command - Closes all open files.

ADDRESS	VALUE(S)	DESCRIPTION
=====	=====	=====
-31962	, 100,132	Executes default "NUM" command - when the program running ends. The 100 line will contain garbage, so, just put a REM there.
	, 100,136	Executes "RES" command.
	, 101,190	Executes "LIST" command - From command mode only. Same as -31962,100,128.
	, 160,000	Generates Colorful Title Screen.
	, 160,04	Executes "RUN" command without PRE-SCAN. This is faster than a "run" statement in a program.
	, 255	Restarts XB and runs "DSK1.LOAD".
-31974	, A,B	End of VDP STACK ADDRESS (A6+B).
	, A,B	Running free space in VDP RAM (A6+B-2487) NOTE: FOR-NEXT loops, GOSUBs, ETC. All use running space, garbage collection recovers it. This PEEK will not always return the exact amount of free VDP space unless a garbage collection has just been done. SIZE performs garbage collection before reporting stack free space.
-31982	, A	Last line address.
-32112	, B	Searches disk drive for (?) unknown.
-32114	, 2	Random characters printed to the screen.
	, 13	Screen goes wild.
	, 119	Produces lines
-32116	, 2	Random characters printed on screen.
	, 4	XB to TI-BASIC.
-32187	, 0	Disable XB protection.
	, 2	Set "ON WARNING NEXT" command.
	, 4	Set "ON WARNING STOP" command.
	, 9	Set "0" line number.
	, 14	Set "UNTRACE" command.
	, 15	Set "UNTRACE" and "NUM" commands.
	, 16	Set "TRACE" command.
	, 64	Set "ON BREAK NEXT" command.
	, 128	Enable XB program protection.
-32188	, 1	Changes color leaving a syntax error.
	, 127	Changes color and issues BRAKEPOINT.
-32280	, 0	Set Multicolor mode.
-32352	, 0	Set CLEAR mode.
-32572	, 1	Strange effects using keyboard.
-32572	, 128	Disables keyboard.
-32630	, 128	Reset to Title Screen.
-32699	, 0	Disable XB protection.
	, 2	Set "ON WARNING NEXT" command.
	, 4	Set "ON WARNING STOP" command.
	, 14	Set "UNTRACE" command.
	, 15	Set "UNTRACE" and "NUM" commands.
	, 16	Set "TRACE" command.
	, 64	Set "ON BREAK NEXT" command.
	, 120	Set "UNTRACE" command.
	, 128	Enable XB protection.
-32700	, 0	Clears screen for a moment.
-32729	, 0	RUN "DSK1.LOAD".
-32730	, 32	Reset to Title screen.
-32766	, 0	Set bit map mode.

ADDRESS	VALUE(S)	DESCRIPTION
=====	=====	=====
-32768 ,	0	Set normal mode.
-32961 ,	51	Reset to Title Screen.
	, 149	Set "ON BREAK GOTO" (Locks system).

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The following POKES require Editor/Assembler cartridge or Mini-memory.

|          |        |                                                                             |
|----------|--------|-----------------------------------------------------------------------------|
| 874 ,    | A      | Use POKEV(784,A) (Where A is 16 to 31). Changes cursor background color.    |
| -24574 , | 8      | Believed to allow the mini-memory to use the 24k for storage.               |
| -30945 , | 0      | White Edges.                                                                |
| -31888 , | 63,255 | Disables disk drives. This is the same as CALL FILES(0) - use BYE to reset. |
| -32272 , | 0      | Text mode (-32270,0,"",-39945,0 40                                          |
| -----    |        | -----                                                                       |