

GenRef  
v1.00

MDOS Reference guide.

KeyScan Library

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## KeyScan - OVERVIEW

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The KeyScan management routines in MDOS are provided to aid a programmer in writing applications requiring keyboard and joystic input. The Geneve supports keyboards utility up to 12 function keys and a separate keyboard.

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## CALLING KEYSKAN FUNCTIONS

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The MDOS KeyScan Library must be called from within a machine code program running as a task under MDOS. You pass arguments to the KeyScan Library via the calling registers.

The MDOS KeyScan Library is invoked from a machine code program when software trap number zero (XOP 0) is called with a library number of 5. The calling program's R0 must contain the 16-bit subprogram at the time of the XOP.

```

SCAN  LI    R0,>0004    Scan Mode
      LI    R1,>FF00
      XOP   @FIVE,0     Access subprogram
      JNE   SCAN        Wait for keypress

      ANDI  R1,>FF00

      CI    R1,>FF00
      JEQ   SCAN

```

\* Check Keypress

```

      ANDI  R1,>7F00    Codes (usually) never higher than >F

```

\* Note – If you do NOT perform the ANDI, control codes may start at >80 - >9F

```

      MOVB  R1,@STR     Let's display the character – place in buffer

      LI    R0,>0027     Write Text Routine
      LI    R1,STR1     String to write
      CLR   R2           Null terminated string
      XOP   @SIX,0      Access subprogram

      BLWP  @0           Exit

FIVE  DATA >0005
SIX   DATA >0006
STR1  BYTE  >00
      BYTE  >0D,>0A,0   CR/LF/Null terminated
      EVEN

```

In the preceding example, three hidden assumptions were made. First it is assumed that STR1 is located on a page which is currently mapped into a memory page which has the same 16-bit address page number as its Virtual address page number (read the section on Memory Management.) The second assumption is that FIVE and SIX are actually at the virtual address FIVE and SIX, not in some overlay segment with a different virtual address.

## KeyScan Mode Library

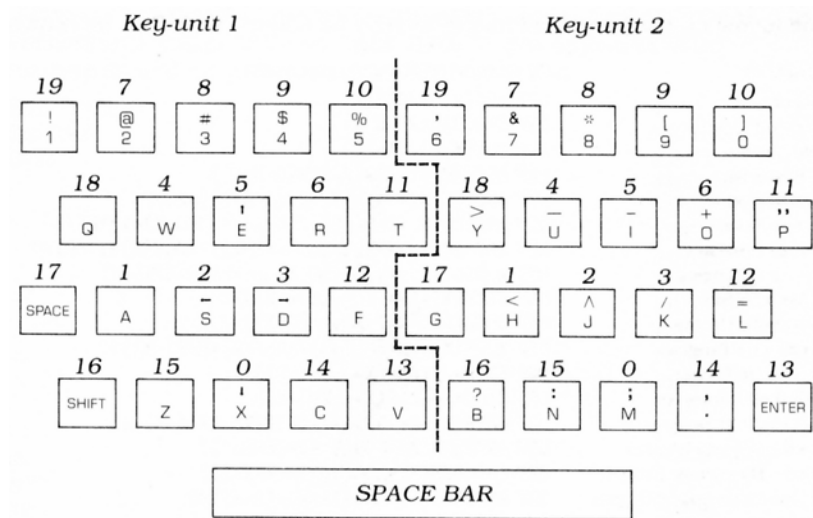
### KeyScan Mode

<b>Function</b>	Returns key press from selected key mode.
<b>Parameters</b>	R0x = Keyboard Mode
<b>Results</b>	R0l = Returned mode (same as >8374 in TI-99/4A mode) R1h = Returned scan code (same as >8375 in TI-99/4A mode) R2l = Joystick X value (same as >8377 in TI-99/4A mode) R2h = Joystick Y Value (same as >8376 in TI-99/4A mode)
	EQ bit in status register set if there's a new key in R0
	Mode 7      EQ = 1 if Break On Mode 8      Raw scan code returned in R1h Raw code returned is >FF if no code in buffer

### Parameter Description

Keyboard Mode	>0000	USE LAST KEYBOARD MODE (MUST BE GOOD!)
	>0001	USE LEFT SIDE OF KEYBOARD
	>0002	USE RIGHT SIDE OF KEYBOARD
	>0003	STANDARD MODE
	>0004	PASCAL MODE
	>0005	BASIC MODE
	>0006	Reserved for Abasic
	>0007	BREAK KEY CHECK
	>0008	RAW KEY CHECK

Left (>0001) and Right (>0002) side of Keyboard Modes



KeyMode	0	Console keyboard, in mode previously specified by the calling subprogram.
	1	Only the left side of the keyboard is active.
	2	Only the right side of the keyboard is active.
	3	Places keyboard in standard TI-99/4A mode. (Most command module software used this mode.) Both upper and lower case alphabetical characters are returned as upper-case only, and the function keys (BACK, BEGIN, etc) return codes 1 through 15. No control characters are active. If code > 96 and Code < 123 then add ->20. If Code > 126, then Kill it. If Code < 32 and Code > 15 then Kill it.
	4	Remaps the keyboard in the PASCAL mode. Both upper and lower case alphabetical character codes are returned by the computer, and the function keys return codes from 129 through 143. The control character codes are 1 through 31.
	5	Places the keyboard in 99/4A BASIC mode. Both upper and lower case alphabetical character codes are returned by the computer. The function key codes are 1 through 15, and the control key codes are 128 through 159 (and 187).
	6	This mode is reserved for MYARC Advanced BASIC mode and is not available to any MDOS programs other than ABasic. In addition to the normal ASCII codes returned in keyboard mode 5, the following additional Extended Codes are also returned in keyboard mode 6.

Extended Code (Hex)	Function
3	NUL Character
F	Back Arrow
10-19	ALT Q,W,E,R,T,Y,U,I,O,P
1E-26	ALT A,S,D,F,G,H,J,K,L
2C-32	ALT Z,X,C,V,B,N,M
3B-44	F1-F10 Function Keys (Base Case)
47	Home
48	Up Arrow
49	Page Up
4B	Left Arrow
4D	Right Arrow
4F	End
50	Down Arrow
51	Page Down
52	INS
53	DEL
54-5D	F11-F20 (Upper Case F1-F10)
5E-67	F21-F30 (CTRL F1-F10)
68-71	F31-F40 (ALT F1-F10)
72	CTRL PRTSC (Start/Stop Echo to Printer)
73	CTRL Right Arrow (Reverse Word)
74	CTRL Left Arrow (Advance Word)
75	CTRL END (Erase to End of Line)
76	CTRL PG DN (Erase to End of Screen)
77	CTRL HOME (Clear Screen and Home)
78-83	ALT 1,2,3,4,5,6,7,8,9,0,-,=
84	CTRL PG UP (Top 25 lines of Text and Home Cursor)