





(2) 45  
(3) 74

DECLARATIONS  
LIB\$BBSSI - Test and set a bit with interlock

```

0000 1      .TITLE LIB$BBSSI - Test and set bit interlocked
0000 2      .IDENT /1-001/ ; File: LIBBBSSI.MAR Edit: SBL1001
0000 3
0000 4
0000 5 :*****
0000 6 :*
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0000 27 :
0000 28
0000 29 :++
0000 30 : FACILITY: General Utility Library
0000 31 :
0000 32 : ABSTRACT:
0000 33 :
0000 34 :     LIB$BBSSI tests and sets a bit with interlock.
0000 35 :
0000 36 : ENVIRONMENT: Runs at any access mode, AST Reentrant
0000 37 :
0000 38 : AUTHOR: Steven B. Lionel, CREATION DATE: 16-AUG-1982
0000 39 :
0000 40 : MODIFIED BY:
0000 41 :
0000 42 : 1-001 - Original. SBL 16-AUG-1982
0000 43 :--

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0000 45      .SBTTL  DECLARATIONS
0000 46      :
0000 47      : LIBRARY MACRO CALLS:
0000 48      :
0000 49      :     NONE
0000 50      :
0000 51      : EXTERNAL DECLARATIONS:
0000 52      :
0000 53      :     .DSABL  GBL           ; Force all external symbols to be declared
0000 54      :     NONE
0000 55      :
0000 56      : MACROS:
0000 57      :
0000 58      :     NONE
0000 59      :
0000 60      : EQUATED SYMBOLS:
0000 61      :
0000 62      :     NONE
0000 63      :
0000 64      : OWN STORAGE:
0000 65      :
0000 66      :     NONE
0000 67      :
0000 68      : PSECT DECLARATIONS:
0000 69      :
00000000 70      :     .PSECT _LIB$CODE PIC, USR, CON, REL, LCL, SHR, -
0000 71      :     EXE, RD, NOWRT, LONG
0000 72
```

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0000 74      .SBTTL LIB$BBSSI - Test and set a bit with interlock
0000 75      :++
0000 76      : FUNCTIONAL DESCRIPTION:
0000 77      :
0000 78      : LIB$BBSSI tests and sets a selected bit under memory interlock.
0000 79      : LIB$BBSSI makes the VAX-11 BBSSI instruction available as a
0000 80      : callable procedure.
0000 81      :
0000 82      : The single bit specified by the "position" and "base" arguments
0000 83      : is tested, the previous state of the bit remembered, and the bit set.
0000 84      : The reading of the state of the bit and the setting of it constitute
0000 85      : an interlocked operation, interlocked against similar operations by
0000 86      : other processors or devices in the system. The remembered previous
0000 87      : state of the bit is then returned as the function value of LIB$BBSSI.
0000 88      :
0000 89      : For more information, see the VAX-11 Architecture Reference Manual.
0000 90      :
0000 91      : CALLING SEQUENCE:
0000 92      :
0000 93      : previous-state.wv.v = LIB$BBSSI (position.rl.r, base.rz.r)
0000 94      :
0000 95      : FORMAL PARAMETERS:
0000 96      :
00000004 0000 97      : position = 4      ; The signed longword bit position, relative to "base",
0000 98      :                  ; of the bit being tested and set. Passed by reference.
0000 99      :
00000008 0000 100     : base = 8         ; The byte which contains bit zero of the object
0000 101     :                  ; being tested and set. Passed by reference.
0000 102     :
0000 103     : IMPLICIT INPUTS:
0000 104     :
0000 105     : NONE
0000 106     :
0000 107     : IMPLICIT OUTPUTS:
0000 108     :
0000 109     : NONE
0000 110     :
0000 111     : ROUTINE VALUE:
0000 112     :
0000 113     : The previous value of the bit which was tested and set.
0000 114     :
0000 115     : SIDE EFFECTS:
0000 116     :
0000 117     : Sets the specified bit.
0000 118     :
0000 119     :--
0000 120     :
0000 121     :.ENTRY LIB$BBSSI, ^M<>
0000 122     MOVL #1, R0 ; Initially, assume bit set
0000 123     BBSSI @position(AP), @base(AP), 10$ ; Skip if bit set
0000 124     CLRL R0 ; Bit was clear
0000 125 10$: RET ; Return previous state
0000 126     :
0000 127     .END ; End of module LIB$BBSSI

```

LIB\$BSSI  
Symbol table

- Test and set bit interlocked

C 13

15-SEP-1984 23:48:44  
6-SEP-1984 11:03:35

VAX/VMS Macro V04-00  
[LIBRTL.SRC]LIBBSSI.MAR;1

Page 4  
(3)

BASE = 00000008  
LIB\$BSSI = 00000000 RG 01  
POSITION = 00000004

+-----+  
! Psect synopsis !  
+-----+

PSECT name	Allocation	PSECT No.	Attributes														
ABS	00000000 ( 0.)	00 ( 0.)	NOPIC	USR	CON	ABS	LCL	NOSHR	NOEXE	NORD	NOWRT	NOVEC	BYTE				
LIB\$CODE	0000000E ( 14.)	01 ( 1.)	PIC	USR	CON	REL	LCL	SHR	EXE	RD	NOWRT	NOVEC	LONG				

+-----+  
! Performance indicators !  
+-----+

Phase	Page faults	CPU Time	Elapsed Time
Initialization	29	00:00:00.07	00:00:00.65
Command processing	109	00:00:00.32	00:00:02.22
Pass 1	71	00:00:00.25	00:00:01.85
Symbol table sort	0	00:00:00.00	00:00:00.00
Pass 2	37	00:00:00.18	00:00:00.99
Symbol table output	2	00:00:00.00	00:00:00.00
Psect synopsis output	2	00:00:00.02	00:00:00.02
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	252	00:00:00.84	00:00:05.83

The working set limit was 750 pages.  
1229 bytes (3 pages) of virtual memory were used to buffer the intermediate code.  
There were 10 pages of symbol table space allocated to hold 3 non-local and 1 local symbols.  
127 source lines were read in Pass 1, producing 10 object records in Pass 2.  
0 pages of virtual memory were used to define 0 macros.

+-----+  
! Macro library statistics !  
+-----+

Macro library name	Macros defined
_\$255\$DUA28:[SYSLIB]STARLET.MLB;2	0

0 GETS were required to define 0 macros.

There were no errors, warnings or information messages.

MACRO/ENABLE=SUPPRESSION/DISABLE=(GLOBAL,TRACEBACK)/LIS=LIS\$:LIBBSSI/OBJ=OBJ\$:LIBBSSI MSRC\$:LIBBSSI/UPDATE=(ENH\$:LIBBSSI)

RTLMACB32 REQ	STRMACROS REQ	RTLOOBBG REQ	RTLPSECT REQ	STRLNK REQ	RTLMACMAR MAR	LIBASCEBC LIS	LIBASTINP LIS	LIBBINTRE LIS	LIBCHAR LIS
					LIBDEF FOR	LIBANASTR LIS	LIBASNMBX LIS	LIBBBCCI LIS	
					LIBABUPCA LIS	LIBADDP LIS			
					SIGDEF FOR		LIBASCTIM LIS		
							LIBATTACH LIS		
					LIBTABMAC MAR	LIBA2EREV LIS	LIBBBSST LIS	LIBCALLG LIS	LIBCLICAL LIS
						LIBADDP LIS			