


```

LL      IIIIII  BBBB8888  SSSSSSSS  PPPPPPPP  AAAAAA  NN      NN  CCCCCCCC
LL      IIIIII  88888888  SSSSSSSS  PPPPPPPP  AAAAAA  NN      NN  CCCCCCCC
LL      II      BB      BB  SS      PP      PP  AA      AA  NN      NN  CC
LL      II      BB      BB  SS      PP      PP  AA      AA  NN      NN  CC
LL      II      BB      BB  SS      PP      PP  AA      AA  NNNN     NN  CC
LL      II      BB      BB  SS      PP      PP  AA      AA  NNNN     NN  CC
LL      II      88888888  SSSSSS  PPPPPPPP  AA      AA  NN      NN  CC
LL      II      88888888  SSSSSS  PPPPPPPP  AA      AA  NN      NN  CC
LL      II      BB      BB  SS      PP      PP  AAAAAAAAAA  NN      NNNN  CC
LL      II      BB      BB  SS      PP      PP  AAAAAAAAAA  NN      NNNN  CC
LL      II      BB      BB  SS      PP      PP  AA      AA  NN      NN  CC
LL      II      BB      BB  SS      PP      PP  AA      AA  NN      NN  CC
LLLLLLLLLLLL  IIIIII  88888888  SSSSSSSS  PP      AA      AA  NN      NN  CCCCCCCC
LLLLLLLLLLLL  IIIIII  88888888  SSSSSSSS  PP      AA      AA  NN      NN  CCCCCCCC

```

```

LL      IIIIII  SSSSSSSS
LL      IIIIII  SSSSSSSS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SSSSSS
LL      II      SSSSSS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SS
LLLLLLLLLLLL  IIIIII  SSSSSSSS
LLLLLLLLLLLL  IIIIII  SSSSSSSS

```

.....

(2) 60
(3) 88

DECLARATIONS
LIB\$SPANC - Span characters



```

0000 1      .TITLE LIBSSPANC - Scan for character
0000 2      .IDENT /1-006/ ; File: LIBSSPANC.MAR Edit: RKR1006
0000 3
0000 4
0000 5 *****
0000 6 *****
0000 7 *   COPYRIGHT (c) 1978, 1980, 1982, 1984 BY   *
0000 8 *   DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS. *
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0000 18 *   THE INFORMATION IN THIS SOFTWARE IS SUBJECT TO CHANGE WITHOUT NOTICE *
0000 19 *   AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY DIGITAL EQUIPMENT *
0000 20 *   CORPORATION. *
0000 21
0000 22 *   DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS *
0000 23 *   SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL. *
0000 24
0000 25 *****
0000 26 *****
0000 27
0000 28
0000 29 ++
0000 30 : FACILITY: General Utility Library
0000 31
0000 32 : ABSTRACT:
0000 33
0000 34 :     Return an index into the source string of the satisfying
0000 35 :     character or zero
0000 36
0000 37 : ENVIRONMENT: User Mode, AST Reentrant
0000 38
0000 39 --
0000 40 : AUTHOR: Donald G. Petersen, CREATION DATE: 03-Jan-78
0000 41
0000 42 : MODIFIED BY:
0000 43
0000 44 :     DGP, 03-Jan-78 : VERSION 00
0000 45 :     01 - Original
0000 46 :     00-02 - DGP 05-Jan-78 - table.rbu.ra for table.rt.dx
0000 47 :     00-03 - DGP 18-Jan-78 - remove one instruction
0000 48 :     1-001 - Update version number and copyright notice. JBS 16-NOV-78
0000 49 :     1-002 - Add "" to the PSECT directive. JBS 21-DEC-78
0000 50 :     1-003 - Fix entry mask so R2 and R3, which get clobbered, are saved.
0000 51 :     SBL 02-Feb-79
0000 52 :     1-004 - Enhance to recognize additional classes of string descriptors
0000 53 :     by invoking LIB$ANLAYZE_SDESC_R3 to extract length and
0000 54 :     address of 1st data byte of string. RKR 26-MAY-1981.
0000 55 :     1-005 - Add special-case code to process string descriptors that
0000 56 :     "read" like fixed string descriptors. RKR 7-OCT-1981
0000 57 :     1-006 - Redirect jsb's from LIB$ANALYZE_SDESC_R3 to

```

LIB\$SPANC
1-006

- Scan for character

J 5

16-SEP-1984 00:20:13 VAX/VMS Macro V04-00
6-SEP-1984 11:11:13 [LIBRTL.SRC]LIB\$SPANC.MAR;1

Page 2
(1)

0000 58 ;

LIB\$ANALYZE_SDESC_R2. RKR 18-NOV-1981.

LIB
1-0

.....

```

0000 60      .SBTTL  DECLARATIONS
0000 61      :
0000 62      : INCLUDE FILES: NONE
0000 63      :
0000 64      :
0000 65      : EXTERNAL SYMBOLS
0000 66      :   .DSABL  GBL           ; Only explicit externals
0000 67      :   .EXTRN  LIB$ANALYZE_SDESC_R2 ; Extract length and address of
0000 68      :                                       ; 1st data byte of string
0000 69      :
0000 70      : MACROS:
0000 71      :
0000 72      :   $DSCDEF           ; fields within a descriptor
0000 73      :
0000 74      :
0000 75      : EQUATED SYMBOLS: NONE
0000 76      :
0000 77      :
0000 78      :
0000 79      : OWN STORAGE: NONE
0000 80      :
0000 81      :
0000 82      :
0000 83      : PSECT DECLARATIONS:
0000 84      :
00000000 85      :   .PSECT _LIB$CODE PIC, SHR, LONG, EXE, NOWRT
0000 86

```

```

0000 88      .SBTTL LIB$SPANC - Span characters
0000 89      :++
0000 90      : FUNCTIONAL DESCRIPTION:
0000 91      :
0000 92      :   The bytes of the string specified by the source descriptor are
0000 93      :   successively used to index into a the table.
0000 94      :   The byte selected from the table is ANDed with the mask byte
0000 95      :   specified by the mask descriptor.  The operation continues
0000 96      :   until the result of the AND is zero.  The relative position of
0000 97      :   the character in the source string which terminated the
0000 98      :   operation is returned if one is found.  Otherwise, zero
0000 99      :   is returned.  If the source string has a length of zero then a
0000 100     :   zero is returned.
0000 101     :
0000 102     : CALLING SEQUENCE:
0000 103     :
0000 104     :   index.wlu.v = LIB$SPANC (src.rt.dx, table.rbu.ra, mask.rbu.r)
0000 105     :
0000 106     :
0000 107     : INPUT PARAMETERS:
0000 108     :
00000004 0000 109     :   SOURCE = 4           ; Adr of source string desc
00000008 0000 110     :   TABLE = 8          ; Adr of base of table
0000000C 0000 111     :   MASK = 12           ; Adr of mask byte
0000 112     :
0000 113     : IMPLICIT INPUTS:
0000 114     :
0000 115     :   NONE
0000 116     :
0000 117     : OUTPUT PARAMETERS:
0000 118     :
0000 119     :   NONE
0000 120     :
0000 121     : IMPLICIT OUTPUTS:
0000 122     :
0000 123     :   NONE
0000 124     :
0000 125     : FUNCTION VALUE:
0000 126     :
0000 127     :   index.wlu.v
0000 128     :
0000 129     : SIDE EFFECTS:
0000 130     :
0000 131     :   NONE
0000 132     :
0000 133     :--
0000 134     :
0000 135     :.ENTRY LIB$SPANC, ^M<R2, R3, R4>; Entry point
50 04 AC 001C 0002 136     :   MOVL SOURCE(AP), R0 ; Address of source descriptor
02 03 A0 91 0006 137     :   CMPB DSC$B_CLASS(R0), #DSC$K_CLASS_D ; read like fixed ?
06 1A 000A 138     :   BGTRU 1$ ; no
51 04 BC 7D 000C 139     :   MOVQ @SOURCE(AP), R1 ; length->R1, address->R2
06 11 0010 140     :   BRB 2$ ; join common flow
0012 141     :
00000000*GF 16 0012 142 1$: JSB G^LIB$ANALYZE_SDESC_R2 ; Extract: length->R1, addr->R2
54 51 3C 0018 143 2$: MOVZWL R1, R4 ; save length of source string
001B 144

```

| | | | | | | |
|-------|-------|----|----|------|------|-------|
| 0C BC | 08 BC | 62 | 54 | 2B | 001B | 145 |
| | | | | | 0022 | 146 |
| | | | | | 0022 | 147 |
| | | | | | 0022 | 148 |
| | | | | | 0022 | 149 |
| | | | | | 0022 | 150 |
| | | | | | 0022 | 151 |
| | | | | | 0022 | 152 |
| | | | | | 0022 | 153 |
| | | | | | 0022 | 154 |
| | | | | | 0022 | 155 |
| | | | | | 0022 | 156 |
| | | | | | 0022 | 157 |
| | | | | | 0022 | 158 |
| | | 06 | 13 | 0022 | 159 | |
| | | 50 | A3 | 0024 | 160 | |
| | | 50 | D6 | 0028 | 161 | |
| | | | 04 | 002A | 162 | 10\$: |
| | | | | 002B | 163 | |

```

SPANC R4, (R2), @TABLE(AP), @MASK(AP) ; spanc character
; State of regs after a SPANC instr.
; R0 = number of bytes remaining in
; source string (including the byte
; which produced the zero AND)
; Is zero if no character found.
; R1 = If found, address of byte which
; produced zero AND,
; else address of 1 byte beyond
; source string
; R2 = 0
; R3 = address of table
;
; branch if no character found
BEQL 10$ ;
SUBW3 R0, R4, R0 ; get position of character
INCL R0 ; one origin
RET
.END

```

```

; spanc character
; State of regs after a SPANC instr.
; R0 = number of bytes remaining in
; source string (including the byte
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; R1 = If found, address of byte which
; produced zero AND,
; else address of 1 byte beyond
; source string
; R2 = 0
; R3 = address of table
;
; branch if no character found
; get position of character
; one origin

```


LIB\$SPANC
Symbol table

- Scan for character

N 5

16-SEP-1984 00:20:13
6-SEP-1984 11:11:13

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

Page 6
(3)

| | | | | |
|-----------------------|---|----------|----|----|
| DSC\$B_CLASS | = | 00000003 | | |
| DSC\$K_CLASS_D | = | 00000002 | | |
| LIB\$ANALYZE_SDESC_R2 | | ***** | X | 00 |
| LIB\$SPANC | | 00000000 | RG | 02 |
| MASK | = | 0000000C | | |
| SOURCE | = | 00000004 | | |
| TABLE | = | 00000008 | | |

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

| PSECT name | Allocation | PSECT No. | Attributes | | | | | | | | | | |
|------------|-----------------|-----------|------------|-----|-----|-----|-------|-------|------|-------|-------|------|--|
| . ABS . | 00000000 (0.) | 00 (0.) | NOPIC USR | CON | ABS | LCL | NOSHR | NOEXE | NORD | NOWRT | NOVEC | BYTE | |
| \$ABS\$ | 00000000 (0.) | 01 (1.) | NOPIC USR | CON | ABS | LCL | NOSHR | EXE | RD | WRT | NOVEC | BYTE | |
| _LIB\$CODE | 0000002B (43.) | 02 (2.) | PIC USR | CON | REL | LCL | SHR | EXE | RD | NOWRT | NOVEC | LONG | |

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

| Phase | Page faults | CPU Time | Elapsed Time |
|------------------------|-------------|-------------|--------------|
| Initialization | 29 | 00:00:00.04 | 00:00:01.88 |
| Command processing | 109 | 00:00:00.31 | 00:00:02.59 |
| Pass 1 | 132 | 00:00:01.13 | 00:00:05.40 |
| Symbol table sort | 0 | 00:00:00.10 | 00:00:00.94 |
| Pass 2 | 44 | 00:00:00.32 | 00:00:02.46 |
| Symbol table output | 3 | 00:00:00.01 | 00:00:00.01 |
| Psect synopsis output | 2 | 00:00:00.01 | 00:00:00.01 |
| Cross-reference output | 0 | 00:00:00.00 | 00:00:00.00 |
| Assembler run totals | 321 | 00:00:01.92 | 00:00:13.30 |

The working set limit was 1050 pages.
 7912 bytes (16 pages) of virtual memory were used to buffer the intermediate code.
 There were 10 pages of symbol table space allocated to hold 136 non-local and 3 local symbols.
 163 source lines were read in Pass 1, producing 13 object records in Pass 2.
 8 pages of virtual memory were used to define 7 macros.

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

| | |
|-------------------------------------|----------------|
| Macro library name | Macros defined |
| ----- | ----- |
| _\$255\$DUA28:[SYSLIB]STARLET.MLB;2 | 4 |

190 GETS were required to define 4 macros.

There were no errors, warnings or information messages.

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

LIB
1-0

S
R
L
M
C

LIBSPAWN
LIS

LIBSTATUM
LIS

LIBTRAAZE
LIS

LIBSPANC
LIS

LIBSYMBOL
LIS

LIBTRNLOG
LIS

LIBSKPC
LIS

LIBTIMER
LIS

LIBTPARSE
LIS

LIBTRIMF1
LIS

LIBSTRET
LIS

LIBTRAE2A
LIS