



```

LL      IIIIII  BBBB BBBB  SSSSSSSS  CCCCCCCC  AAAAAA  NN  NN  CCCCCCCC
LL      IIIIII  BBBB BBBB  SSSSSSSS  CCCCCCCC  AAAAAA  NN  NN  CCCCCCCC
LL      II      BB      BB  SS      CC      AA      AA  NN  NN  CC
LL      II      BB      BB  SS      CC      AA      AA  NN  NN  CC
LL      II      BB      BB  SS      CC      AA      AA  NNNN  NN  CC
LL      II      BB      BB  SS      CC      AA      AA  NNNN  NN  CC
LL      II      BBBB BBBB  SSSSSS  CC      AA      AA  NN  NN  CC
LL      II      BBBB BBBB  SSSSSS  CC      AA      AA  NN  NN  CC
LL      II      BB      BB  SS      CC      AAAAAAAAAA  NN  NNNN  CC
LL      II      BB      BB  SS      CC      AAAAAAAAAA  NN  NNNN  CC
LL      II      BB      BB  SS      CC      AA      AA  NN  NN  CC
LL      II      BB      BB  SS      CC      AA      AA  NN  NN  CC
LLLLLLLLLLLL  IIIIII  BBBB BBBB  SSSSSSSS  CCCCCCCC  AA      AA  NN  NN  CCCCCCCC
LLLLLLLLLLLL  IIIIII  BBBB BBBB  SSSSSSSS  CCCCCCCC  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

```



LIB\$SCANC  
Table of contents

- Scan for character

E 11

16-SEP-1984 00:18:08 VAX/VMS Macro V04-00

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DECLARATIONS  
LIB\$SCANC - Scan characters

LIB  
1-0

: R

```

0000 1 .TITLE LIBSSCANC - Scan for character
0000 2 .IDENT /1-007/ ; File: LIBSSCANC.MAR Edit: SBL1007
0000 3
0000 4
0000 5 *****
0000 6 *
0000 7 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
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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 - Updated 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 to save R2 and R3 which get clobbered.
0000 51 : SBL 02-feb-79
0000 52 : 1-004 - Enhance to recognize additiional classes of string descriptors
0000 53 : by invoking LIB$ANALYZE_SDESC_R3 to extract length and address
0000 54 : of 1st data byte from descriptor. RKR 22-MAY-1981
0000 55 : 1-005 - Add special-case code to process string descriptors that
0000 56 : "read" like fixed string descriptors. RKR 7-OCT-1981.
0000 57 : 1-006 - Redirect jsb's from LIB$ANALYZE_SDESC_R3 to

```

0000 58 : LIB\$ANALYZE\_SDESC\_R2. RKR 18-NOV-1981.  
0000 59 : 1-007 - Add R4 to the register save mask, since it is used as a temporary.  
0000 60 : SPR 11-50566 SBL 26-Oct-1982

.....

```
0000 62      .SBTTL  DECLARATIONS
0000 63      :
0000 64      : INCLUDE FILES: NONE
0000 65      :
0000 66      :
0000 67      : EXTERNAL SYMBOLS:
0000 68      .DSABL  GBL          ; Only explicit external
0000 69      .EXTRN  LIB$ANALYZE_SDESC_R2 ; Extract length and address of
0000 70      :                               ; 1st data byte
0000 71      :
0000 72      : MACROS:
0000 73      :
0000 74      $DSCDEF          ; field in a descriptor
0000 75      :
0000 76      :
0000 77      : EQUATED SYMBOLS: NONE
0000 78      :
0000 79      :
0000 80      :
0000 81      : OWN STORAGE: NONE
0000 82      :
0000 83      :
0000 84      :
0000 85      : PSECT DECLARATIONS:
0000 86      :
00000000 87      .PSECT _LIB$CODE PIC, SHR, LONG, EXE, NOWRT
0000 88
```

```

0000 90 .SBTTL LIB$SCANC - Scan characters
0000 91 :++
0000 92 : FUNCTIONAL DESCRIPTION:
0000 93 :
0000 94 : The bytes of the string specified by the source descriptor are
0000 95 : successively used to index into a the table.
0000 96 : The byte selected from the table is ANDed with the mask byte
0000 97 : specified by the mask descriptor. The operation continues
0000 98 : until the result of the AND is non-zero. The relative position
0000 99 : of the character in the source string which terminated the
0000 100 : operation is returned if one is found. Otherwise, zero
0000 101 : is returned. If the source string has a length of zero then
0000 102 : a zero is returned.
0000 103 :
0000 104 : CALLING SEQUENCE:
0000 105 :
0000 106 : index.wlu.v = LIB$SCANC (src.rt.dx, table.rbu.ra, mask.rbu.r)
0000 107 :
0000 108 :
0000 109 : INPUT PARAMETERS:
0000 110 :
0000 111 : SOURCE = 4 ; Adr of source string desc
0000 112 : TABLE = 8 ; Adr of base of table
0000 113 : MASK = 12 ; adr of mask byte
0000 114 :
0000 115 : IMPLICIT INPUTS:
0000 116 :
0000 117 : NONE
0000 118 :
0000 119 : OUTPUT PARAMETERS:
0000 120 :
0000 121 : NONE
0000 122 :
0000 123 : IMPLICIT OUTPUTS:
0000 124 :
0000 125 : NONE
0000 126 :
0000 127 : FUNCTION VALUE:
0000 128 :
0000 129 : INDEX.wlu.v ; the resulting position
0000 130 :
0000 131 : SIDE EFFECTS:
0000 132 :
0000 133 : NONE
0000 134 :
0000 135 : --
0000 136 :
0000 137 : .ENTRY LIB$SCANC , ^M<R2, R3, R4> ; Entry point
50 04 AC 001C 0002 138 MOVL SOURCE(AP), R0 ; address of SOURCE descriptor
00000000'GF 16 0006 139 JSB G^LIB$ANALYZE_SDESC_R2 ; Extract: length->R1, addr->R2
54 51 3C 000C 140 MOVZWL R1, R4 ; save length of SOURCE
000F 141
0C BC 08 BC 62 54 2A 000F 142 SCANC R4, (R2), @TABLE(AP), @MASK(AP) ; Scan character
0016 143 ; State of regs after a SCANC instr.
0016 144 ; R0 = number of bytes remaining in
0016 145 ; source string (including the byte
0016 146 ; which produced the nonzero AND)

```

00000004  
00000008  
0000000C

: R

```

0016 147
0016 148
0016 149
0016 150
0016 151
0016 152
0016 153
0016 154
50 54 06 13 0016 154 BEQL 10$
50 A3 0018 155 SUBW3 R0, R4, R0
50 D6 001C 156 INCL R0
04 001E 157 10$: RET
001F 158 .END

```

```

: R1 = If found, address of byte which
: produced non 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

```



LIBSSCANC  
Symbol table

- Scan for character

K 11

16-SEP-1984 00:18:08 VAX/VMS Macro V04-00  
6-SEP-1984 11:10:32 [LIBRTL.SRC]LIBSSCANC.MAR;1

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(3)

LIB  
1-0

LIBSANALYZE\_SDESC\_R2 \*\*\*\*\* X 00  
LIBSSCANC 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
\$AB\$\$	00000000 ( 0.)	01 ( 1.)	NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE
_LIB\$CODE	0000001F ( 31.)	02 ( 2.)	PIC USR CON REL LCL SHR EXE RD NOWRT NOVEC LONG

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

Phase	Page faults	CPU Time	Elapsed Time
Initialization	29	00:00:00.05	00:00:01.11
Command processing	127	00:00:00.36	00:00:02.01
Pass 1	135	00:00:01.09	00:00:04.50
Symbol table sort	0	00:00:00.11	00:00:00.78
Pass 2	43	00:00:00.30	00:00:02.25
Symbol table output	2	00:00:00.01	00:00:00.02
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	340	00:00:01.94	00:00:10.68

The working set limit was 1050 pages.  
7774 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 1 local symbols.  
158 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\$:LIBSSCANC/OBJ=OBJ\$:LIBSSCANC MSRC\$:LIBSSCANC/UPDATE=(ENH\$:LIBSSCANC)

LIBPOLYG  
LIS

LIBREMCHI  
LIS

LIBSIGSTO  
LIS

LIBRENAME  
LIS

LIBSCANC  
LIS

LIBRDOBU  
LIS

LIBRINPRO  
LIS

LIBSIGNAL  
LIS

LIBPUTOUT  
LIS

LIBREMOTI  
LIS

LIBSIGRET  
LIS

LIBSIMTRA  
LIS

LIBPOLYH  
LIS

LIBREVERT  
LIS

LIBSCOPY  
LIS