


```

CCCCCCCC 000000 BBBB8888 SSSSSSSS EEEEEEEEE TTTTTTTTT SSSSSSSS WW WW IIIIII
CCCCCCCC 000000 BBB88888 SSSSSSSS EEEEEEEEE TTTTTTTTT SSSSSSSS WW WW IIIIII
CC        00      00 BB      BB SS        EE        TT        SS        WW      WW      II
CC        00      00 BB      BB SS        EE        TT        SS        WW      WW      II
CC        00      00 BB      BB SS        EE        TT        SS        WW      WW      II
CC        00      00 BB      BB SS        EE        TT        SS        WW      WW      II
CC        00      00 BBB88888 SSSSSS  EEEEEEEE TT        SS        WW      WW      II
CC        00      00 BBB88888 SSSSSS  EEEEEEEE TT        SS        WW      WW      II
CC        00      00 BB      BB          SS        EE        TT        SS        WW  WW  WW      II
CC        00      00 BB      BB          SS        EE        TT        SS        WW  WW  WW      II
CC        00      00 BB      BB          SS        EE        TT        SS        WWW  WWW  III
CC        00      00 BB      BB          SS        EE        TT        SS        WWW  WWW  III
CCCCCCCC 000000 BBBB8888 SSSSSSSS EEEEEEEEE TTT        SSSSSSSS WW      WW      IIIIII
CCCCCCCC 000000 BBBB8888 SSSSSSSS EEEEEEEEE TTT        SSSSSSSS WW      WW      IIIIII

```

```

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
LLLLLLLLLL IIIIII SSSSSSSS
LLLLLLLLLL IIIIII SSSSSSSS

```

```

1 0001 0 MODULE COB$SET_SWITCH(
2 0002 0 IDENT = '1-004' ! file: COBSETSWI.B32 EDIT:LB1004
3 0003 0 ) =
4 0004 1 BEGIN
5 0005 1
6 0006 1
7 0007 1 *****
8 0008 1 *
9 0009 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY *
10 0010 1 * DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS. *
11 0011 1 * ALL RIGHTS RESERVED. *
12 0012 1 *
13 0013 1 * THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED *
14 0014 1 * ONLY IN ACCORDANCE WITH THE TERMS OF SUCH LICENSE AND WITH THE *
15 0015 1 * INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR ANY OTHER *
16 0016 1 * COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY *
17 0017 1 * OTHER PERSON. NO TITLE TO AND OWNERSHIP OF THE SOFTWARE IS HEREBY *
18 0018 1 * TRANSFERRED. *
19 0019 1 *
20 0020 1 * THE INFORMATION IN THIS SOFTWARE IS SUBJECT TO CHANGE WITHOUT NOTICE *
21 0021 1 * AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY DIGITAL EQUIPMENT *
22 0022 1 * CORPORATION. *
23 0023 1 *
24 0024 1 * DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS *
25 0025 1 * SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL. *
26 0026 1 *
27 0027 1 *
28 0028 1 *****
29 0029 1
30 0030 1 **
31 0031 1 FACILITY: COBOL SUPPORT
32 0032 1
33 0033 1 ABSTRACT
34 0034 1
35 0035 1 Sets external switches.
36 0036 1
37 0037 1
38 0038 1 ENVIRONMENT: Vax-11 User Mode
39 0039 1
40 0040 1 AUTHOR: MLJ , CREATION DATE: 30-Oct-1979
41 0041 1
42 0042 1 MODIFIED BY:
43 0043 1
44 0044 1 1-001 - Original, from COBSWITCH.B32 1-005. MLJ 30-Oct-1979
45 0045 1 1-002 - Signal COB$ SETEXTFAI if $CRELOG fails. PDG 7-Aug-81
46 0046 1 1-003 - Added EDIT phrase so CHECKIN creates a valid audit trail.
47 0047 1 Also updated copyright date. LB 9-Aug-81
48 0048 1 1-004 - Use logical LNMSC_NAMLENGTH instead of hard-coded 64.
49 0049 1 LGB 31-OCT-83
50 0050 1 --
    
```

```
52 0051 1 |
53 0052 1 | SWITCHES
54 0053 1 |
55 0054 1 |
56 0055 1 SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
57 0056 1 |
58 0057 1 |
59 0058 1 | LINKAGES
60 0059 1 |
61 0060 1 LINKAGE
62 0061 1 | L = JSB : GLOBAL(PTR=2, CNT=3, DIG=4);
63 0062 1 |
64 0063 1 | TABLE OF CONTENTS:
65 0064 1 |
66 0065 1 FORWARD ROUTINE
67 0066 1 | GET_DIGIT : L ;
68 0067 1 |
69 0068 1 | INCLUDE FILES
70 0069 1 |
71 0070 1 REQUIRE 'RTLIN:RTLPSECT' ; ! Macros to declare psects
72 0165 1 LIBRARY 'RTLSTARLE';
73 0166 1 |
74 0167 1 |
75 0168 1 | MACROS
76 0169 1 |
77 0170 1 | NONE
78 0171 1 |
79 0172 1 | EQUATED SYMBOLS
80 0173 1 |
81 0174 1 EXTERNAL LITERAL
82 0175 1 | COB$_SETEXTFAI; ! SET external switch failed
83 0176 1 |
84 0177 1 |
85 0178 1 | PSECT DECLARATIONS:
86 0179 1 |
87 0180 1 |
88 0181 1 DECLARE_PSECTS (COB) ; ! Declare psects for COB$ facility
```

C
S
C

P
I
P
S
S
C
A
T
I
O

M
I
O
T
M

```

90      0182 1 GLOBAL ROUTINE COB$SET_SWITCH(SET_MASK,DO_SET)=
91      0183 1
92      0184 1 ++      FUNCTIONAL DESCRIPTION
93      0185 1
94      0186 1
95      0187 1      This routine sets and clears external switches.
96      0188 1
97      0189 1
98      0190 1 FORMAL PARAMETERS:
99      0191 1
100     0192 1      SET_MASK      - Bit mask of switches to be set or cleared.
101     0193 1      Bits 0 through 15 correspond to external
102     0194 1      switches numbered 1 through 16.
103     0195 1
104     0196 1      DO_SET      - If true, the indicated switches are set.
105     0197 1      Otherwise, they are cleared.
106     0198 1
107     0199 1 IMPLICIT INPUTS:
108     0200 1      Logical name table
109     0201 1
110     0202 1
111     0203 1 IMPLICIT OUTPUTS:
112     0204 1
113     0205 1      New definition for logical name COB$SWITCHES.
114     0206 1
115     0207 1 ROUTINE VALUE:
116     0208 1
117     0209 1      NONE
118     0210 1
119     0211 1 COMPLETION CODES:
120     0212 1
121     0213 1      NONE
122     0214 1
123     0215 1 SIDE EFFECTS:
124     0216 1
125     0217 1      NONE
126     0218 1
127     0219 1 --
128     0220 1
129     0221 2 BEGIN
130     0222 2 LOCAL
131     0223 2 BUFFER:      VECTOR[LNM$C_NAMLENGTH, BYTE],      ! Returned equivalence string
132     0224 2 BUFD$C:    VECTOR[2],      ! Descriptor for BUFFER
133     0225 2 NAMDESC:   VECTOR[2],      ! Descriptor for logical name
134     0226 2 LENGTH:    WORD,      ! Length of equivalence string
135     0227 2 MASK:      ! Local bit mask of switches
136     0228 2 STATUS:    ! System service status
137     0229 2 GLOBAL REGISTER
138     0230 2 PTR=2, CNT=3, DIG=4;
139     0231 2 LABEL
140     0232 2 LOOP;
141     0233 2
142     0234 2 BUFD$C[0] = LNM$C_NAMLENGTH;      ! Set up descriptors
143     0235 2 BUFD$C[1] = BUFFER;      !
144     0236 2 NAMDESC[0] = 12;      !
145     0237 2 NAMDESC[1] = UPLIT('COB$SWITCHES');      !
146     0238 2

```

```

147      0239      2
148      0240      2
149      P 0241      2      MASK = 0;           ! Initialize the mask
150      0242      2      IF STRNLOG(           ! Translate COB$SWITCHES
151      0243      2      LOGNAM=NAMDESC, RSLLEN=LENGTH, RSLBUF=BUFDESC)
152      0244      2      THEN
153      0245      2      BEGIN
154      0246      2      PTR = BUFFER;           ! Set up global registers
155      0247      2      CNT = .LENGTH;         ! ...
156      0248      2
157      0249      2      LOOP:
158      0250      2      BEGIN
159      0251      2      WHILE 1 DO
160      0252      2      BEGIN LOCAL VAL;
161      0253      2      .
162      0254      2      . Skip leading non-digits.
163      0255      2      .
164      0256      2      WHILE (IF .CNT GTR 0 THEN NOT GET_DIGIT() ELSE LEAVE LOOP) DO 0;
165      0257      2      .
166      0258      2      . Remember first digit.
167      0259      2      .
168      0260      2      VAL = .DIG;
169      0261      2      .
170      0262      2      . Scan over digits to next non-digit, computing value in VAL.
171      0263      2      .
172      0264      2      WHILE (IF .CNT GTR 0 THEN GET_DIGIT() ELSE 0) DO VAL = .VAL * 10 + .DIG;
173      0265      2      .
174      0266      2      . Put value into mask, if it is in range 1 to 16.
175      0267      2      .
176      0268      2      IF (VAL = .VAL - 1) LEQU 15 THEN MASK<.VAL,1> = 1;
177      0269      2      END;
178      0270      2      END;
179      0271      2      END; ! of labelled block LOOP
180      0272      2
181      0273      2
182      0274      2      ! The entire equivalence string for COB$SWITCHES has now been processed,
183      0275      2      ! and MASK contains the bit mask of switches that were set. Modify it
184      0276      2      ! according to the routine parameters.
185      0277      2
186      0278      2      IF .DO SET
187      0279      2      THEN MASK = .MASK OR .SET_MASK
188      0280      2      ELSE MASK = .MASK AND NOT .SET_MASK;
189      0281      2
190      0282      2
191      0283      2      ! Convert the bit mask to a new equivalence string.
192      0284      2
193      0285      2      PTR = BUFFER;
194      0286      2      (.PTR)<0,8> = %C' ';           ! Use a leading space to be sure the
195      0287      2      PTR = .PTR + 1;           ! string isn't of zero length.
196      0288      2      INCR I FROM 0 TO 15 DO
197      0289      2      BEGIN
198      0290      2      IF .MASK<.I,1>
199      0291      2      THEN
200      0292      2      BEGIN LOCAL VAL;
201      0293      2      .
202      0294      2      . The switch is set. Put the decimal ASCII representation into
203      0295      2      . the buffer. Since we know the value is 1 through 16,

```


		35	50	E9	00030		BLBC	RO, 4\$		
		52	14	AE	9E 00033		MOVAB	BUFFER, PTR		0245
		53		6E	3C 00037		MOVZWL	LENGTH, CNT		0246
				53	D5 0003A	1\$:	TSTL	CNT		0256
				2A	15 0003C		BLEQ	4\$		
				0000V	30 0003E		BSBW	GET_DIGIT		
		F6		50	E9 00041		BLBC	RO, 1\$		
		55		54	D0 00044		MOVL	DIG, VAL		0260
				53	D5 00047	2\$:	TSTL	CNT		0264
				10	15 00049		BLEQ	3\$		
				0000V	30 0004B		BSBW	GET_DIGIT		
		0A		50	E9 0004E		BLBC	RO, 3\$		
50		55		0A	C5 00051		MULL3	#10, VAL, RO		
55		50		54	C1 00055		ADDL3	DIG, RO, VAL		
				EC	11 00059		BRB	2\$		
				55	D7 0005B	3\$:	DECL	VAL		0268
		0F		55	D1 0005D		CMPL	VAL, #15		
				D8	1A 00060		BGTRU	1\$		
D4		56		55	E2 00062		BBSS	VAL, MASK, 1\$		
				D2	11 00066		BRB	1\$		0251
		06	08	AC	E9 00068	4\$:	BLBC	DO SET, 5\$		0278
		56	04	AC	C8 0006C		BISL2	SET_MASK, MASK		0279
				04	11 00070		BRB	6\$		
		56	04	AC	CA 00072	5\$:	BICL2	SET_MASK, MASK		0280
		52	14	AE	9E 00076	6\$:	MOVAB	BUFFER, PTR		0285
		82		20	90 0007A		MOVB	#32, (PTR)+		0286
				51	D4 0007D		CLRL	I		0288
16		56		51	E1 0007F	7\$:	BBC	I, MASK, 9\$		0290
		50	01	A1	9E 00083		MOVAB	1(R1), VAL		0298
		0A		50	D1 00087		CMPL	VAL, #10		0299
				06	1F 0008A		BLSSU	8\$		
		82		31	90 0008C		MOVB	#49, (PTR)+		0302
		50		0A	C2 0008F		SUBL2	#10, VAL		0304
82		50		30	81 00092	8\$:	ADDB3	#48, VAL, (PTR)+		0306
		82		20	90 00096		MOVB	#32, (PTR)+		0308
E2		51		0F	F3 00099	9\$:	AOBLEQ	#15, I, 7\$		0288
		50	14	AE	9E 0009D		MOVAB	BUFFER, RO		0316
OC	AE	52		50	C3 000A1		SUBL3	RO, PTR, BUFDESC		
			10	AE	9E 000A6		MOVAB	BUFFER, BUFDESC+4		0317
				7E	D4 000AB		CLRL	-(SP)		0321
				10	AE 9F 000AD		PUSHAB	BUFDESC		
			OC	AE	9F 000B0		PUSHAB	NAMDESC		
				02	DD 000B3		PUSHL	#2		
		00000000G	00	04	FB 000B5		CALLS	#4, SYSS\$CRELOG		
			11	50	E8 000BC		BLBS	STATUS, 10\$		
				50	DD 000BF		PUSHL	STATUS		0323
				7E	D4 000C1		CLRL	-(SP)		
		00000000G	00	8F	DD 000C3		PUSHL	#COB\$ SETEXTFAI		
			50	03	FB 000C9		CALLS	#3, LIB\$SIGNAL		
				01	D0 000D0	10\$:	MOVL	#1, RO		0326
				04	000D3		RET			

; Routine Size: 212 bytes, Routine Base: _COB\$CODE + 000C


```

: 236 0327 1 ROUTINE GET_DIGIT: L=
: 237 0328 1
: 238 0329 1 ++ FUNCTIONAL DESCRIPTION
: 239 0330 1
: 240 0331 1
: 241 0332 1 Get next character from string, returning:
: 242 0333 1 PTR advanced to next character
: 243 0334 1 'IT decremented
: 244 0335 1 DIG containing the character less %C'0'
: 245 0336 1 Value true if and only if the character was a digit
: 246 0337 1
: 247 0338 1
: 248 0339 1 FORMAL PARAMETERS:
: 249 0340 1
: 250 0341 1
: 251 0342 1 IMPLICIT INPUTS:
: 252 0343 1
: 253 0344 1 NONE
: 254 0345 1
: 255 0346 1 IMPLICIT OUTPUTS:
: 256 0347 1
: 257 0348 1 NONE
: 258 0349 1
: 259 0350 1 ROUTINE VALUE:
: 260 0351 1 COMPLETION CODES:
: 261 0352 1
: 262 0353 1 NONE
: 263 0354 1
: 264 0355 1 SIDE EFFECTS:
: 265 0356 1
: 266 0357 1 NONE
: 267 0358 1
: 268 0359 1 --
: 269 0360 1
: 270 0361 2 BEGIN
: 271 0362 2 EXTERNAL REGISTER
: 272 0363 2 PTR, CNT, DIG;
: 273 0364 2 LOCAL
: 274 0365 2 VAL;
: 275 0366 2
: 276 0367 2 VAL = 0; ! Assume false value
: 277 0368 2 DIG = .(.PTR)<0,8>; ! Fetch character
: 278 0369 2 PTR = .PTR + 1; ! Advance pointer
: 279 0370 2 CNT = .CNT - 1; ! Decrement count
: 280 0371 2 DIG = .DIG - %C'0'; ! Bias character
: 281 0372 2 IF .DIG LEQU 9 THEN VAL = .VAL + 1; ! Set true value if need be
: 282 0373 2 .VAL ! Return the value
: 283 0374 1 END;

```

```

50 D4 0000 GET_DIGIT:
54 82 9A 0002 CLRL VAL : 0367
53 D7 0005 MOVZBL (PTR)+, DIG : 0368
DECL CNT : 0370

```

COB\$SET_SWITCH
1-004

N 3
16-Sep-1984 00:15:15
14-Sep-1984 12:10:57

VAX-11 Bliss-32 V4.0-742
[COBRTL.SRC]COBSETSWI.B32;1

Page 8
(4)

54	30	C2	00007	SUBL2	#48, DIG
09	54	D1	0000A	CMPL	DIG, #9
	02	1A	0000D	BGTRU	1\$
	50	D6	0000F	INCL	VAL
	05	00011	1\$:	RSB	

: 0371
: 0372
: :
: 0374

: Routine Size: 18 bytes, Routine Base: _COB\$CODE + 00E0

: 284 0375 0 END ELUDOM

.EXTRN LIB\$SIGNAL

PSECT SUMMARY

Name	Bytes	Attributes
_COB\$CODE	242	NOVEC, NOWRT, RD, EXE, SHR, LCL, REL, CON, PIC, ALIGN(2)

Library Statistics

File	----- Total	Symbols Loaded	----- Percent	Pages Mapped	Processing Time
_\$255\$DUA28:[SYSLIB]STARLET.L32;1	9776	5	0	581	00:00.8

COMMAND QUALIFIERS

BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACE/LIS=LIS\$:COBSETSWI/OBJ=OBJ\$:COBSETSWI MSRCS\$:COBSETSWI/UPDATE=(ENHS\$:COBSETSWI)

: Size: 230 code + 12 data bytes
: Run Time: 00:04.9
: Elapsed Time: 00:21.5
: Lines/CPU Min: 4563
: Lexemes/CPU-Min: 21127
: Memory Used: 95 pages
: Compilation Complete

