


```

EEEEEEEEEE XX XX AAAAAA MM MM PPPPPPPP SSSSSSSS LL
EEEEEEEEEE XX XX AAAAAA MM MM PPPPPPPP SSSSSSSS LL
EE XX XX AA AA MMMM MMMM PP PP SS LL
EE XX XX AA AA MMMM MMMM PP PP SS LL
EE XX XX AA AA MM MM PP PP SS LL
EE XX XX AA AA MM MM PPPPPPPP SSSSSS LL
EEEEEEEE XX AA AA MM MM PPPPPPPP SSSSSS LL
EEEEEEEE XX XX AAAAAAAAAA MM MM PP SS LL
EE XX XX AAAAAAAAAA MM MM PP SS LL
EE XX XX AA AA MM MM PP SS LL
EEEEEEEEEE XX XX AA AA MM MM PP SSSSSSSS LL
EEEEEEEEEE XX XX AA AA MM MM PP SSSSSSSS LL

```

```

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 IIIIII SSSSSSSS
LLLLLLLLLL IIIIII SSSSSSSS
LLLLLLLLLL IIIIII SSSSSSSS

```

```
1 0001 0 MODULE FORMAT_PSL ( IDENT = 'V04-000' ) =
2 0002 1 BEGIN
3 0003 1
4 0004 1 *****
5 0005 1 *
6 0006 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY *
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23 0023 1 *
24 0024 1 *
25 0025 1 *****
26 0026 1
27 0027 1 FACILITY: SDA
28 0028 1
29 0029 1 ++
30 0030 1 FUNCTIONAL DESCRIPTION:
31 0031 1
32 0032 1 Given a longword value, format as a PSL.
33 0033 1
34 0034 1 Author:
35 0035 1 Jake VanNoy (taken from DEBUG sources)
36 0036 1
37 0037 1 Modified by:
38 0038 1
39 0039 1 V03-001 JLV0222 Jake VanNoy 21-JAN-1983
40 0040 1 Add module to SDA sources.
41 0041 1 --
42 0042 1
43 0043 1 LIBRARY
44 0044 1 'SYSS$LIBRARY:STARLET';
45 0045 1
46 0046 1 REQUIRE
47 0047 1 'SHRLIB$:UTILDEF';
48 0232 1
49 0233 1 EXTERNAL ROUTINE
50 0234 1 SYSS$FAOL : ADDRESSING_MODE (GENERAL),
51 0235 1 LIB$PUT_OUTPUT : ADDRESSING_MODE (GENERAL);
52 0236 1
53 0237 1 FORWARD ROUTINE
54 0238 1 fao_put : NOVALUE,
55 0239 1 format_psl : NOVALUE; ! ROUTINE TO OUTPUT PSL IN SPECIAL FORMAT
56 0240 1
```

```

58 0241 1 GLOBAL ROUTINE format_psl (value, buffer) : NOVALUE =
59 0242 1 ++
60 0243 1 FUNCTIONAL DESCRIPTION:
61 0244 1     Formats and outputs two lines of specially
62 0245 1     formatted data contained in the PSL. The fields shown are
63 0246 1
64 0247 1     CMP      - compatibility mode
65 0248 1     TP       - trace trap pending
66 0249 1     FPD      - first part done
67 0250 1     IS       - interrupt stack
68 0251 1     CURMOD   - current access mode
69 0252 1     PRVMOD   - previous access mode
70 0253 1     IPL      - interrupt priority level
71 0254 1     DV       - decimal overflow trap enable
72 0255 1     FU       - floating underflow trap enable
73 0256 1     IV       - integer overflow trap enable
74 0257 1     T        - trace trap
75 0258 1     N        - condition code
76 0259 1     Z        - condition code
77 0260 1     V        - condition code
78 0261 1     C        - condition code
79 0262 1
80 0263 1 CALLING SEQUENCE:
81 0264 1     FORMAT_PSL ( .psl, buffer)
82 0265 1
83 0266 1 INPUTS:
84 0267 1     value    -The current contents of the PSL
85 0268 1
86 0269 1 IMPLICIT INPUTS:
87 0270 1     NONE
88 0271 1
89 0272 1 OUTPUTS:
90 0273 1     buffer is returned with length and address of psl line.
91 0274 1
92 0275 1 IMPLICIT OUTPUTS:
93 0276 1     NONE
94 0277 1
95 0278 1 ROUTINE value:
96 0279 1     NOVALUE
97 0280 1
98 0281 1 SIDE EFFECTS:
99 0282 1     --
100 0283 1
101 0284 2 BEGIN
102 0285 2     MAP
103 0286 2     buffer : REF vector[2],
104 0287 2     value  : block;
105 0288 2     MACRO
106 0289 2     position_field = 0, 8, 1%,
107 0290 2     size_field     = 8, 8, 1%,
108 0291 2     mode_field     = 16, 4, 1%,
109 0292 2     blanks_field  = 20, 4, 1%,
110 0293 2     width_field   = 24, 8, 1%,
111 0294 2
112 M 0295 2     psl_field (name, position, size, mode, width, leading_blanks) =
113 0296 2     position, size, mode OR (leading_blanks ^ 4), width%;
114 0297 2

```

```

115 0298
116 0299
117 0300
118 0301
119 0302
120 0303
121 0304
122 0305
123 0306
124 0307
125 0308
126 0309
127 0310
128 0311
129 0312
130 0313
131 0314
132 0315
133 0316
134 0317
135 0318
136 0319
137 0320
138 0321
139 0322
140 0323
141 0324
142 0325
143 0326
144 0327
145 0328
146 0329
147 0330
148 0331
149 0332
150 0333
151 0334
152 0335
153 0336
154 0337
155 0338
156 0339
157 0340
158 0341
159 0342
160 0343
161 0344
162 0345
163 0346
164 0347
165 0348
166 0349
167 0350
168 0351
169 0352
170 0353
171 0354

```

```

LITERAL
    decimal          = 0;
    max_psl_field    = 15;

BIND
    psl_table = UPLIT BYTE (
        psl_field (CMP, 31, 1, 0, 1, 1),
        psl_field (TP, 30, 1, 0, 1, 3),
        psl_field (FPD, 27, 1, 0, 1, 2),
        psl_field (IS, 26, 1, 0, 1, 3),
        psl_field (CURMOD, 24, 2, 1, 4, 2),
        psl_field (PRVMOD, 22, 2, 1, 4, 3),
        psl_field (IPL, 16, 5, 0, 2, 3),
        psl_field (DV, 7, 1, 0, 1, 2),
        psl_field (FU, 6, 1, 0, 1, 2),
        psl_field (IV, 5, 1, 0, 1, 2),
        psl_field (T, 4, 1, 0, 1, 1),
        psl_field (N, 3, 1, 0, 1, 1),
        psl_field (Z, 2, 1, 0, 1, 1),
        psl_field (V, 1, 1, 0, 1, 1),
        psl_field (C, 0, 1, 0, 1, 1)
    );

    : BLOCK,

    hex_number      = UPLIT BYTE (%ASCIC '!AD!#XB'),
    stg_desc        = UPLIT BYTE (%ASCIC '!AD!AD'),
    blanks          = UPLIT BYTE (%ASCII ' '),

    priv_modes      = UPLIT BYTE (
        %ASCII 'KERN',
        %ASCII 'EXEC',
        %ASCII 'SUPR',
        %ASCII 'USER'
    );

    : VECTOR;

LOCAL
    SAVE_BUFFER      : VECTOR[2];      ! save buffer descriptor

    save_buffer[0] = .buffer[0];
    save_buffer[1] = .buffer[1];

    ! Write out the standard title which describes the PSL fields.

    fao_put (.buffer,
        UPLIT (%ASCIC '!_CMP TP FPD IS CURMOD PRVMOD IPL DV FU IV T N Z V C!/_!_'));
    INCR count FROM 0 TO max_psl_field - 1 DO
        IF .psl_table [.count, mode_field] EQL decimal
            THEN
                BEGIN
                    fao_put (.buffer, hex_number,
                        .psl_table [.count, blanks_field], blanks,
                        .psl_table [.count, width_field],
                        .value [0, .psl_table [.count, position_field],
                            .psl_table [.count, size_field], 0]);
                END
            ;

```

```

HAN
Sym
CHF
CHF
CHF
HAN
MSG
MSG
MSG
SS$
SS$
SS$
STS
STS
STS
STS
SYS
SYS
PSE
---
.
B
$AB
Pha
---
Ini
Com
Pas
Sym
Pas
Sym
Pse
Cro
Ass
The
510
The
156
11

```

```

: 172      0355      3
: 173      0356      ELSE      END
: 174      0357      BEGIN
: 175      0358      fao_put (.buffer, stg_desc,
: 176      0359      .psl_table [.count, blanks_field], blanks,
: 177      0360      .psl_table [.count, width_field],
: 178      0361      priv_modes [.value [0, .psl_table [.count, position_field],
: 179      0362      .psl_table [.count, size_field], 0]]);
: 180      0363      END;
: 181      0364
: 182      0365      buffer[0] = .save_buffer[0] - .buffer[0];      ! length is starting length minus remaining length
: 183      0366      buffer[1] = .save_buffer[1]                    ! address is reset
: 184      0367
: 185      0368      1 END;      ! EXAM_PSL

```

```

: 30 01 1A 01 20 01 1B 01 30 01 1E 01 10 01 1F 00000 P.AAA: .BYTE 31, 1, 16, 1, 30, 1, 48, 1, 27, 1, 32, 1, -
: 01 07 02 30 05 10 04 31 02 16 04 21 02 18 01 0000F P.AAB: .ASCII <7>\!AD!\#XB\
: 03 01 10 01 04 01 20 01 05 01 20 01 06 01 20 0001E P.AAC: .ASCII <6>\!AD!\AD\
: 01 10 01 00 01 10 01 01 01 10 01 02 01 10 01 0002D P.AAD: .ASCII \
: 42 58 23 21 44 41 21 07 0003C P.AAE: .ASCII \KERN\
: 44 41 21 06 00044 P.AAF: .ASCII \EXEC\
: 20 20 20 20 0004B P.AAG: .ASCII \SUPR\
: 4E 52 75 72 0004F P.AAH: .ASCII \USER\
: 43 45 58 45 00053 .BLKB 1
: 52 50 55 53 00057 P.AAI: .ASCII \!_CMP TP FPD IS CURMOD PRVMOD IPL DV FU\
: 52 45 53 55 J005B
: 49 20 44 50 46 20 50 54 20 50 4D 43 5F 21 38 00060 P.AAJ: .ASCII \ IV T N Z V C!/_\<0><0><0>
: 44 4F 4D 56 52 50 20 44 4F 4D 52 55 43 20 53 0006F
: 55 46 20 56 44 20 4C 50 49 20 J007E
: 2F 21 43 20 56 20 5A 20 4E 20 54 20 56 49 20 00088
: 00 00 00 5F 21 00097

```

```

PSL_TABLE= P.AAA
HEX_NUMBER= P.AAB
STG_DESC= P.AAC
BLANKS= P.AAD
PRIV_MODES= P.AAE
.EXTRN SYSS$FAOL, LIB$PUT_OUTPUT

```

```

.PSECT $CODE$,NOWRT,2
.ENTRY FORMAT_PSL, Save R2,R3,R4,R5 : 0241
MOVAB BLANKS, R5
SUBL2 #4, SP
MOVL BUFFER, R3 : 0339
PUSHL (R3)
MOVL 4(R3), SAVE_BUFFER+4 : 0340
PUSHAB P.AAF : 0345
PUSHL R3 : 0344

```

HAN
VAX

Mac

-S2
-S2
-S2
TOT
123
The
MAC

			0000V	CF		02	FB	0001A	CALLS	#2, FAO_PUT		
				54	B5	52	D4	0001F	CLRL	COUNT		0346
				51	A5	42	DE	00021	MOVAL	PSL_TABLE[COUNT], R4		0347
				64		64	98	00026	CVTBL	(R4), R1		0354
50	04	AC	01	A4		51	EF	00029	EXTZV	R1, 1(R4), VALJE, R0		
				0F	02	A4	93	00030	BITB	2(R4), #15		0347
						12	12	00034	BNEQ	2\$		
				7E	03	50	DD	00036	PUSHL	R0		0353
						A4	98	00038	CVTBL	3(R4), -(SP)		0352
7E		64	04			55	DD	0003C	PUSHL	R5		0350
					F1	14	EE	0003E	EXTV	#20, #4, (R4), -(SP)		0351
						A5	9F	00043	PUSHAB	HEX_NUMBER		0350
						12	11	00046	BRB	3\$		
				7E	04	A5	40	DF	00048	2\$: PUSHAL	PRIV_MODES[R0]	0362
					03	A4	98	0004C	CVTBL	3(R4), -(SP)		
						55	DD	00050	PUSHL	R5		0358
7E		64	04			14	EE	00052	EXTV	#20, #4, (R4), -(SP)		0362
					F9	A5	9F	00057	PUSHAB	STG_DESC		0358
						53	DD	0005A	3\$: PUSHL	R3		0362
			0000V	CF		06	FB	0005C	CALLS	#6, FAO_PUT		
		BC		52		0E	F3	00061	AOBLEQ	#14, COUNT, 1\$		0347
		63		6E		63	C3	00065	SUBL3	(R3), SAVE_BUFFER, (R3)		0365
			04	A3	04	AE	D0	00069	MOVL	SAVE_BUFFER+4, 4(R3)		0366
						04	0006E		RET			0368

; Routine Size: 111 bytes, Routine Base: \$CODE\$ + 0000

: 186 0369 1
: 187 0370 1

```

189 0371 1 ROUTINE fao_put( buffer, STRING, ARGUMENTS ) : NOVALUE =
190 0372 1 ++
191 0373 1 FUNCTIONAL DESCRIPTION
192 0374 1
193 0375 1 INPUTS:
194 0376 1     STRING - A COUNTED STRING WHICH CONTAINS THE DIRECTIVES FOR $FAO.
195 0377 1     ARGUMENTS - THE ARGS FOR $FAO.
196 0378 1     buffer - The address of the beginning of the current output buffer.
197 0379 1
198 0380 1 OUTPUTS:
199 0381 1     THE $FAO OUTPUT IS PUT INTO THE OUTPUT BUFFER, and
200 0382 1     the buffer pointers are updated.
201 0383 1
202 0384 1 IMPLICIT OUTPUTS:
203 0385 1
204 0386 1 ROUTINE VALUE:
205 0387 1     NONE.
206 0388 1
207 0389 1 --
208 0390 1
209 0391 2     BEGIN
210 0392 2     MAP
211 0393 2         buffer : REF VECTOR[2],           ! OUTPUT DESC FOR $FAO.
212 0394 2         string  : REF VECTOR[ ,BYTE];    ! The string to be formatted
213 0395 2                                     ! for output
214 0396 2     LOCAL
215 0397 2         INP_DESC : VECTOR[2],           ! INPUT DESC FOR $FAO.
216 0398 2         STR_SIZE : WORD;                ! $FAO RETURNS OUTPUT SIZE HERE
217 0399 2
218 0400 2
219 0401 2     inp_desc[0] = .string[0];
220 0402 2     inp_desc[1] = string[1];
221 0403 2
222 0404 2     Signal_if_error (sys$faol( inp_desc, str_size, .buffer, arguments));
223 0405 2
224 0406 2     buffer[0] = .buffer[0] - .str_size;
225 0407 2     buffer[1] = .buffer[1] + .str_size;
226 0408 2
227 0409 1 END;

```

```

000C 0000 FAO_PUT: .WORD Save R2,R3           : 0371
08 AE 04 AE 08 BC C2 00002  SUBL2 #12, SP           : 0401
08 AE 08 AC 01 C1 0000A  ADDL3 #1, STRING, INP_DESC : 0402
0C AC 9F 00010  PUSHAB ARGUMENTS           : 0404
04 AC D0 00013  MOVL BUFFER, R2
52 DD 00017  PUSHL R2
08 AE 9F 00019  PUSHAB STR_SIZE
10 AE 9F 0001C  PUSHAB INP_DESC
00000000G 00 04 FB 0001F  CALLS #4, SYSSFAOL
53 50 D0 00026  MOVL R0, STATUS
0A 53 E8 00029  BLBS STATUS, 1$
53 DD 0002C  PUSHL STATUS

```


00000000G	00	01	FB 0002E	CALLS #1, LIB\$SIGNAL	:
	50	04	00035	RET	:
	62	6E	3C 00036	1\$: MOVZWL STR_SIZE, R0	: 0406
	50	50	C2 00039	SUBL2 R0, (R2)	:
04	A2	6E	3C 0003C	MOVZWL STR_SIZE, R0	: 0407
		50	C0 0003F	ADDL2 R0, -4(R2)	:
		04	00043	RET	: 0409

: Routine Size: 68 bytes, Routine Base: \$CODE\$ + 006F

```

: 228      0410 1
: 229      0411 1
: 230      0412 1 END
: 231      0413 0 ELUDOM

```

.EXTRN LIB\$SIGNAL

PSECT SUMMARY

Name	Bytes	Attributes
\$SPLITS	156	NOVEC,NOWRT, RD ,NOEXE,NOSHR, LCL, REL, CON,NOPIC,ALIGN(2)
\$CODE\$	179	NOVEC,NOWRT, RD , EXE,NOSHR, LCL, REL, CON,NOPIC,ALIGN(2)

Library Statistics

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

COMMAND QUALIFIERS

: BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LISS\$:EXAMPSL/OBJ=OBJ\$:EXAMPSL MSRC\$:EXAMPSL/UPDATE=(ENH\$:EXAMPSL)

```

: Size:      179 code + 156 data bytes
: Run Time:   00:04.9
: Elapsed Time: 00:17.0
: Lines/CPU Min: 5098
: Lexemes/CPU-Min: 33135
: Memory Used: 76 pages
: Compilation Complete

```

This image displays a grid of numerous small technical diagrams and code snippets, likely representing various components or modules of a system. The diagrams are arranged in a regular grid pattern. Several larger, more prominent labels are visible, including:

- HANDLER LIS
- DUMP LIS
- MAIN LIS
- MAPPING LIS
- EXAMPS LIS
- MMG LIS
- INDEX LIS
- LOCK LIS
- PARSE LIS

The diagrams themselves consist of small text blocks, some with vertical bars or other graphical elements, suggesting they are code listings or configuration files for different parts of the system.