


```

LL      IIIIII  BBBB8888  IIIIII  NN      NN  IIIIII  SSSSSSSS  HH      HH  RRRRRRRR
LL      IIIIII  88888888  IIIIII  NN      NN  IIIIII  SSSSSSSS  HH      HH  RRRRRRRR
LL      II      88      88  II      II  NN      NN  II      II  RR      RR
LL      II      88      88  II      II  NN      NN  II      II  RR      RR
LL      II      88      88  II      II  NNNN     NN  II      II  RR      RR
LL      II      88888888  II      II  NN      NN  II      II  HH      HH  RRRRRRRR
LL      II      88888888  II      II  NN      NN  II      II  HH      HH  RRRRRRRR
LL      II      88      88  II      II  NN      NN  II      II  HH      HH  RR      RR
LL      II      88      88  II      II  NN      NN  II      II  HH      HH  RR      RR
LL      II      88      88  II      II  NN      NN  II      II  HH      HH  RR      RR
LL      II      88      88  IIIIII  NN      NN  IIIIII  SSSSSSSS  HH      HH  RR      RR
LLLLLLLLLL  IIIIII  88888888  IIIIII  NN      NN  IIIIII  SSSSSSSS  HH      HH  RR      RR
LLLLLLLLLL  IIIIII  88888888  IIIIII  NN      NN  IIIIII  SSSSSSSS  HH      HH  RR      RR

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) 49
(2) 61
(3) 120

HISTORY ; Detailed Current Edit History
DECLARATIONS
LIB\$IMAGE_INISHR - Linkable image initialization dispatcher

```
0000 1      .TITLE  LIB$IMAGE_INISHR      ; Shareable image initialization
0000 2      .IDENT  'V04-00'              ; File: LIBINISHR.MAR
0000 3
0000 4
0000 5 :*****
0000 6 :*
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0000 21 :*
0000 22 :*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS
0000 23 :*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.
0000 24 :*
0000 25 :*
0000 26 :*****
0000 27
0000 28 ++
0000 29 : FACILITY: RUN-TIME UTILITY PROCEDURE LIBRARY
0000 30
0000 31 : ENVIRONMENT:  User mode - not re-entrant.
0000 32 :                Called only once per image activation.
0000 33
0000 34
0000 35 : ABSTRACT:
0000 36
0000 37 : LIB$IMAGE_INISHR is a software architecture procedure which permits any
0000 38 : linkable (shareable) image to specify an initialization procedure
0000 39 : to be called before the image is activated.
0000 40
0000 41 : The initialization procedure can perform any once per-image activation
0000 42 : initialization which cannot be performed by the usual compile-time and
0000 43 : link-time static data initialization.
0000 44
0000 45 --
0000 46
0000 47 : VERSION: 0
0000 48
0000 49 : .SBTTL  HISTORY      ; Detailed Current Edit History
0000 50
0000 51 : HISTORY:
0000 52
0000 53 : AUTHOR: Alan D. Eldridge      6-Apr-1984
0000 54
0000 55 : Stolen from LIB$INITIALIZE
0000 56
0000 57 : MODIFIED BY:
```

LIB\$IMAGE_INISHR
V04-00

I 15
; Shareable image initialization
HISTORY ; Detailed Current Edit History 16-SEP-1984 00:10:43 VAX/VMS Macro V04-00 Page 2
6-SEP-1984 11:08:06 [LIBRTL.SRC]LIBINISHR.MAR;1 (1)

0000 58 ;
0000 59 ;

```
0000 61      .SBTTL  DECLARATIONS
0000 62
0000 63
0000 64      INCLUDE FILES:
0000 65
0000 66
0000 67      EXTERNAL SYMBOLS:
0000 68
0000 69      .DSABL  GBL                      ; Force .EXTRN declarations for externals
0000 70
0000 71      MACROS:
0000 72
0000 73
0000 74
0000 75      PSECT DECLARATIONS:
0000 76
0000 77
0000 78      The following psects bracket the table within the linkable image. All
0000 79      table entries within the image should be made via a .ADDRESS -- fixup
0000 80      occurs just before LIB$IMAGE_INISHR (and hence the table entries) is
0000 81      called.
0000 82
0000 83
0000 84
00000000 85 .PSECT  LIB$IMAGE_INISHQZ NOPIC,USR,CON,REL,GBL,NOSHR,NOEXE,RD,NOWRT,LONG
0000 86
0000 87      INIT_TABLE_BEG:                      ; First entry in table
0000 88
0000 89
00000000 90 .PSECT  LIB$IMAGE_INISHQ_ NOPIC,USR,CON,REL,GBL,NOSHR,NOEXE,RD,NOWRT,LONG
0000 91      ; Contribution from OTS$STARTUP
0000 92
0000 93
00000000 94 .PSECT  LIB$IMAGE_INISHR  NOPIC,USR,CON,REL,GBL,NOSHR,NOEXE,RD,NOWRT,LONG
0000 95      ; Contributions from rest of library
0000 96      ; and users
0000 97
0000 98
00000000 99 .PSECT  LIB$IMAGE_INISHR$ NOPIC,USR,CON,REL,GBL,NOSHR,NOEXE,RD,NOWRT,LONG
0000 100
00000000 101 INIT_TABLE_END: .LONG  0      ; End of initialization list
0004 102
0004 103      ; The code for this module
0004 104
0004 105
0004 106      EQUATED SYMBOLS:
0004 107
0004 108
0004 109      OWN STORAGE:
0004 110
0004 111
00000000 112      .PSECT  _LIB$DATA      PIC,USR,CON,REL,LCL,NOSHR,NOEXE,RD,WRT
0000 113
0000 114 DISP_PTR:                      ; OWN variable containing pointer to
00000004 115      .BLKL  1                      ; initialization dispatch table
0004 116
00000000 117      .PSECT  _LIB$CODE_NOSHR PIC,USR,CON,REL,LCL,SHR,EXE,RD,NOWRT
```

LIB\$IMAGE_INISHR
V04-00

; Shareable image initialization K 15
DECLARATIONS

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6-SEP-1984 11:08:06 [LIBRTL.SRC]LIBINISHR.MAR;1 (2)

```
0000 120 .SBTTL LIB$IMAGE_INISHR - Linkable image initialization dispatcher
0000 121
0000 122 :++
0000 123 : FUNCTIONAL DESCRIPTION:
0000 124 :
0000 125 : LIB$IMAGE_INISHR is a library procedure for initializing linkable
0000 126 : (shareable) image procedures and data at run-time which cannot be
0000 127 : statically at compile-time or link-time.
0000 128 :
0000 129 : LIB$IMAGE_INISHR is called before the main program if the GLOBAL symbol
0000 130 : LIB$IMAGE_INISHR is defined, or just after the image is merged via a
0000 131 : merge/activate sequence.
0000 132 :
0000 133 : The image need only declare LIB$IMAGE_INISHR as an EXTERNAL (the
0000 134 : compiler generates EXTERNAL OTSS$LINKAGE which generates the EXTERNAL
0000 135 : LIB$IMAGE_INISHR). LIB$IMAGE_INISHR calls every entrypoint contributed
0000 136 : to PSECT LIB$INITIALIZE.
0000 137 :
0000 138 : Note:
0000 139 : This procedure is not re-entrant. It can only be called
0000 140 : once per image activation as currently coded.
0000 141 :
0000 142 : CALLING SEQUENCE:
0000 143 :
0000 144 : Status.wlc.v = LIB$IMAGE_INISHR ()
0000 145 :
0000 146 :
0000 147 : INPUT PARAMETERS:
0000 148 : NONE
0000 149 :
0000 150 : IMPLICIT INPUTS:
0000 151 : NONE
0000 152 :
0000 153 : OUTPUT PARAMETERS:
0000 154 : NONE
0000 155 :
0000 156 : IMPLICIT OUTPUTS:
0000 157 : NONE
0000 158 :
0000 159 : COMPLETION CODES:
0000 160 :
0000 161 : SS$_NORMAL
0000 162 :
0000 163 : SIDE EFFECTS:
0000 164 :
0000 165 : NONE
0000 166 : --
0000 167 : .ENTRY LIB$IMAGE_INISHR, ^M<IV>; entry point and entry mask
0002 168 : ; enable integer overflow
0002 169 : MOVAL INIT_TABLE_BEG, - ; initialize OWN storage (DISP_PTR)
000D 170 : DISP_PTR ; to first address of user/library
000D 171 20$: ;
000D 172 : ;
000D 173 : ; Loop to scan table of user and library initialization procedure
000D 174 : ; starting addresses in PSECT LIB$IMAGE_INISH...
000D 175 : ;
000D 176 : ;
```

```
50 00000000'FF D0 000D 177 MOVL @DISP_PTR, R0 ; R0 = next user/library initialization
; procedure address
OE 13 0014 178 BEQL 50$ ; zero means end of list
51 D4 0016 179 CLRL R1 ; Clear environment pointer
60 6C FA 0018 181 CALLG (AP), (R0) ; call next user/library init proc.
00000000'EF 04 C0 001B 182 ADDL #4, DISP_PTR ; step dispatch pointer to next
; init. proc. address
E9 11 0022 183 BRB 20$ ; loop
50 01 7D 0024 184 50$: MOVQ #1, R0 ; Setup return status in case our
; caller needs it someday
04 0027 186 RET ; Done
0028 188
0028 189
0028 190 .END ; End of module LIB$IMAGE_INISHR
```

LIB\$IMAGE_INISHR
Symbol table

; Shareable image initialization

N 15

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

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(3)

DISP_PTR	00000000	R	05
INIT_TABLE_BEG	00000000	R	01
INIT_TABLE_END	00000000	R	04
LIB\$IMAGE_INISHR	00000000	RG	06

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

PSECT name	Allocation	PSECT No.	Attributes
ABS	00000000 (0.)	00 (0.)	NOPIC USR
LIB\$IMAGE_INISHQZ	00000000 (0.)	01 (1.)	NOPIC USR
LIB\$IMAGE_INISHQ	00000000 (0.)	02 (2.)	NOPIC USR
LIB\$IMAGE_INISHR	00000000 (0.)	03 (3.)	NOPIC USR
LIB\$IMAGE_INISHR\$	00000004 (4.)	04 (4.)	NOPIC USR
LIB\$DATA	00000004 (4.)	05 (5.)	PIC USR
LIB\$CODE_NOSHR	00000028 (40.)	06 (6.)	PIC USR

CON	ABS	LCL	NOSHR	NOEXE	NORD	NOWRT	NOVEC	BYTE
CON	REL	GBL	NOSHR	NOEXE	RD	NOWRT	NOVEC	LONG
CON	REL	GBL	NOSHR	NOEXE	RD	NOWRT	NOVEC	LONG
CON	REL	GBL	NOSHR	NOEXE	RD	NOWRT	NOVEC	LONG
CON	REL	GBL	NOSHR	NOEXE	RD	NOWRT	NOVEC	LONG
CON	REL	LCL	NOSHR	NOEXE	RD	WRT	NOVEC	BYTE
CON	REL	LCL	SHR	EXE	RD	NOWRT	NOVEC	BYTE

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

Phase	Page faults	CPU Time	Elapsed Time
Initialization	30	00:00:00.04	00:00:00.86
Command processing	103	00:00:00.31	00:00:02.58
Pass 1	65	00:00:00.35	00:00:01.95
Symbol table sort	0	00:00:00.00	00:00:00.00
Pass 2	50	00:00:00.23	00:00:01.98
Symbol table output	2	00:00:00.01	00:00:00.01
Psect synopsis output	4	00:00:00.03	00:00:00.18
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	256	00:00:00.97	00:00:07.56

The working set limit was 900 pages.
1923 bytes (4 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 4 non-local and 2 local symbols.
190 source lines were read in Pass 1, producing 20 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=LISS:LIBINISHR/OBJ=OBJ\$:LIBINISHR MSRC\$:LIBINISHR/UPDATE=(ENH\$:LIBINISHR)

0207 AH-BT13A-SE
VAX/VMS V4.0

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