```
LLL                  IIIIIIIII   NNN        NNN KKK        KKK EEEEEEEEEEEEEEE RRRRRRRRRRR
LLL                  IIIIIIIII   NNN        NNN KKK        KKK EEEEEEEEEEEEEEE RRRRRRRRRRR
LLL                  IIIIIIIII   NNN        NNN KKK        KKK EEEEEEEEEEEEEEE RRRRRRRRRRR
LLL                     III      NNN        NNN KKK        KKK EEE             RRR        RRR
LLL                     III      NNN        NNN KKK        KKK EEE             RRR        RRR
LLL                     III      NNN        NNN KKK        KKK EEE             RRR        RRR
LLL                     III      NNNNN      NNN KKK     KKK    EEE             RRR        RRR
LLL                     III      NNNNNN     NNN KKK   KKK      EEE             RRR        RRR
LLL                     III      NNNNNN     NNN KKK KKK        EEE             RRR        RRR
LLL                     III      NNN NNN    NNN KKKKKKKK       EEEEEEEEEEE     RRRRRRRRRRR
LLL                     III      NNN  NNN   NNN KKKKKKKK       EEEEEEEEEEE     RRRRRRRRRRR
LLL                     III      NNN   NNN  NNN KKKKKKKK       EEEEEEEEEEE     RRRRRRRRRRR
LLL                     III      NNN    NNNNNN  KKK KKK        EEE             RRR  RRR
LLL                     III      NNN     NNNNNN KKK   KKK      EEE             RRR   RRR
LLL                     III      NNN      NNNNN KKK     KKK    EEE             RRR   RRR
LLL                     III      NNN        NNN KKK        KKK EEE             RRR        RRR
LLL                     III      NNN        NNN KKK        KKK EEE             RRR        RRR
LLL                     III      NNN        NNN KKK        KKK EEE             RRR        RRR
LLLLLLLLLLLLLLL      IIIIIIIII   NNN        NNN KKK        KKK EEEEEEEEEEEEEEE RRR        RRR
LLLLLLLLLLLLLLL      IIIIIIIII   NNN        NNN KKK        KKK EEEEEEEEEEEEEEE RRR        RRR
LLLLLLLLLLLLLLL      IIIIIIIII   NNN        NNN KKK        KKK EEEEEEEEEEEEEEE RRR        RRR
```

FILEID**LNKINI

```
LL          NN      NN  KK      KK   IIIIII   NN      NN   IIIIII
LL          NN      NN  KK      KK   IIIIII   NN      NN   IIIIII
LL          NN      NN  KK    KK       II     NN      NN     II
LL          NN      NN  KK  KK         II     NN      NN     II
LL          NNNN    NN  KK KK          II     NNNN    NN     II
LL          NNNN    NN  KK KK          II     NNNN    NN     II
LL          NN  NN  NN  KKKKK          II     NN  NN  NN     II
LL          NN  NN  NN  KKKKK          II     NN  NN  NN     II
LL          NN    NNNN  KK  KK         II     NN    NNNN     II
LL          NN    NNNN  KK  KK         II     NN    NNNN     II
LL          NN      NN  KK    KK       II     NN      NN     II
LL          NN      NN  KK      KK     II     NN      NN     II
LLLLLLLLLL  NN      NN  KK      KK   IIIIII   NN      NN   IIIIII
LLLLLLLLLL  NN      NN  KK      KK   IIIIII   NN      NN   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
```

LNK_INIT
V04=000

L 15
16-Sep-1984 00:05:15   VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:40:30   [LINKER.SRC]_NKINI.B32;1

Page 1
(1)

```
    1    0001  0 MODULE LNK_INIT (IDENT='V04-000'
    2    0002  0                   ADDRESSING_MODE(EXTERNAL=GENERAL,
    3    0003  0                                  NJNEXTERNAL=LONG_RELATIVE)
    4    0004  0                   ) =
    5    0005  0
    6    0006  1 BEGIN
    7    0007  1 !
    8    0008  1 !
    9    0009  1 !****************************************************************
   10    0010  1 !*                                                              *
   11    0011  1 !*   COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                    *
   12    0012  1 !*   DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.     *
   13    0013  1 !*   ALL RIGHTS RESERVED.                                       *
   14    0014  1 !*                                                              *
   15    0015  1 !*   THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED  *
   16    0016  1 !*   ONLY IN  ACCORDANCE WITH  THE  TERMS  OF  SUCH  LICENSE  AND WITH THE  *
   17    0017  1 !*   INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER  *
   18    0018  1 !*   COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY  *
   19    0019  1 !*   OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY  *
   20    0020  1 !*   TRANSFERRED.                                               *
   21    0021  1 !*                                                              *
   22    0022  1 !*   THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE  *
   23    0023  1 !*   AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT  *
   24    0024  1 !*   CORPORATION.                                               *
   25    0025  1 !*                                                              *
   26    0026  1 !*   DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS  *
   27    0027  1 !*   SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.    *
   28    0028  1 !*                                                              *
   29    0029  1 !*                                                              *
   30    0030  1 !****************************************************************
   31    0031  1 !
   32    0032  1 !
   33    0033  1 !
   34    0034  1 !
   35    0035  1 !
   36    0036  1 !++
   37    0037  1 !
   38    0038  1 ! MODULE: LNK_INIT
   39    0039  1 !
   40    0040  1 ! FACILITY: LINKER
   41    0041  1 !
   42    0042  1 ! ABSTRACT: INITIALIZATION ROUTINE
   43    0043  1 !
   44    0044  1 ! HISTORY:
   45    0045  1 !
   46    0046  1 !       VERSION: X01.00
   47    0047  1 !
   48    0048  1 !       AUTHOR: T.J. PORTER 03-JAN-77
   49    0049  1 !
   50    0050  1 ! MODIFIED BY:
   51    0051  1 !
   52    0052  1 !       V03-001 BLS0007        Benn Schreiber,        3-Jun-1980
   53    0053  1 !               Convert to MDL datqa structures.
   54    0054  1 !--
```

LNK_INIT
V04-000

M 15
16-Sep-1984 00:05:15   VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:40:30   [LINKER.SRC]LNKINI.B32;1

Page 2
(2)

```
 56    0055  1 !
 57    0056  1 !++
 58    0057  1 !
 59    0058  1 ! FUNCTIONAL DESCRIPTION:
 60    0059  1 !
 61    0060  1 ! ROUTINE WHICH INITIALIZES THE LINKER. IT TAKES NO EXPLICIT
 62    0061  1 ! INPUT. THE FOLLOWING INITIALIZATION IS DONE, IN ORDER:
 63    0062  1 !        1. HASH TABLE ALLOCATED FOR THE SYMBOL TABLE
 64    0063  1 !        2. DEFAULT VALUES ESTABLISHED FOR STACK, BASE ADDRESS
 65    0064  1 !             AND LINK CONTROL MASK.
 66    0065  1 !
 67    0066  1 !--
 68    0067  1 !
 69    0068  1 LIBRARY
 70    0069  1        'STARLETL32';
 71    0070  1 REQUIRE
 72    0071  1        'PREFIX';
 73    0186  1 LIBRARY
 74    0187  1        'DATBAS';
 75    0188  1 !
 76    0189  1 EXTERNAL ROUTINE
 77    0190  1        LNK$ALLOBLK : NOVALUE; ! ALLOCATE DYNAMIC MEMORY
 78    0191  1 !
 79    0192  1 EXTERNAL LITERAL
 80    0193  1        DEF$C_STACK : SHORT,    ! DEFAULT STACK SIZE
 81    0194  1        DEF$C_LNKCTL;           ! DEFAULT CONTROL MASK
 82    0195  1 !
 83    0196  1 EXTERNAL
 84    0197  1        LNK$GL_FVMLST : REF BLOCK[,BYTE],        ! HEAD OF FREE VIRTUAL MEMORY LIST
 85    0198  1        LNK$GL_CTLMSK : BLOCK[,BYTE],            ! LINK CONTROL MASK
 86    0199  1        LNK$GW_STACK : WORD,                     ! STACK SIZE
 87    0200  1        SYM$GL_HASHTBL;
 88    0201  1 !
 89    0202  1 GLOBAL ROUTINE LNK$INIT : NOVALUE =
 90    0203  2 BEGIN
 91    0204  2 !
 92    0205  2 LOCAL    SYMENTALLO;                            ! ALLOCATED SIZE FOR SYMBOL TABLE ENTRIES
 93    0206  2 !
 94    0207  2 LNK$ALLOBLK(SYM$C_TBLSIZ*4,SYM$GL_HASHTBL);     ! ALLOCATE A HASH TABLE
 95    0208  2 CH$FILL(0,SYM$C_TBLSIZ*4,.SYM$GL_HASHTBL);      ! CLEAR THE TABLE
 96    0209  2 LNK$GW_STACK = DEF$C_STACK;                     ! SET DEFAULT STACK SIZE
 97    0210  2 LNK$GL_CTLMSK = DEF$C_LNKCTL;                   ! DEFAULT CONTROL FLAGS
 98    0211  2 LNK$ALLOBLK(FVM$C_SIZE,LNK$GL_FVMLST);          ! ALLOCATE FIRST FREE MEMORY DESCRIPTOR
 99    0212  2 LNK$GL_FVMLST[FVM$L_NXTFVM] = 0;                ! POINTS NOWHERE
100    0213  2 LNK$GL_FVMLST[FVM$L_ADDRESS] = 0;               ! ASSUME BASE OF PROGRAM REGION
101    0214  2 LNK$GL_FVMLST[FVM$L_BYTES] = CONTROL_REGION;    ! AND ALL OF REGION
102    0215  2 RETURN;
103    0216  1 END;
```

```
                    .TITLE  LNK_INIT
                    .IDENT  \V04-000\

                    .EXTRN  LNK$ALLOBLK, DEF$C_STACK
                    .EXTRN  DEF$C_LNKCTL, LNK$GL_FVMLST
                    .EXTRN  LNK$GL_CTLMSK, LNK$GW_STACK
                    .EXTRN  SYM$GL_HASHTBL
```

LNK_INIT
V04=000

N 15
16-Sep-1984 00:05:15   VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:40:30   [LINKER.SRC]LNKINI.B32;1

Page 3
(2)

```
                                                  .PSECT  $CODE$,NOWRT,2

                                   01FC 00000      .ENTRY  LNK$INIT, Save R2,R3,R4,R5,R6,R7,R8      : 0202
                   58 00000000G 00   9E 00002      MOVAB   SYM$GL_HASHTBL, R8
                   57 00000000G 00   9E 00009      MOVAB   LNK$GL_FVMLST, R7
                   56 00000000G 00   9E 00010      MOVAB   LNK$ALLOBLK, R6
                                58   DD 00017      PUSHL   R8                                       : 0207
                     7E    0454 8F   3C 00019      MOVZWL  #1108, -(SP)
                                66   02 FB 0001E    CALLS   #2, LNK$ALLOBLK
                                50   68 D0 00021    MOVL    SYM$GL_HASHTBL, R0                        : 0208
  0454   8F           00       6E   00 2C 00024    MOVC5   #0, (SP), #0, #1108, (R0)
                                60      0002B
       00000000G 00         00G 9B 0002C    MOVZBW  S^DEF$C_STACK, LNK$GW_STACK               : 0209
       00000000G 00 00000000G 8F   D0 00033    MOVL    #DEF$C_LNKCTL, LNK$GL_CTLMSK             : 0210
                                57   DD 0003E    PUSHL   R7                                       : 0211
                                0C   DD 00040    PUSHL   #12
                                66   02 FB 00042    CALLS   #2, LNK$ALLOBLK
                                50   67 D0 00045    MOVL    LNK$GL_FVMLST, R0                         : 0212
                                60   7C 00048    CLRQ    (R0)
                08   A0 40000000 8F   D0 0004A    MOVL    #1073741824, 8(R0)                        : 0214
                                04 00052    RET                                                 : 0216

; Routine Size: 83 bytes,   Routine Base: $CODE$ + 0000

; 104        0217  0 END ELUDOM
```

                        PSECT SUMMARY

        Name   Bytes   Attributes

    $CODE$ 83   NOVEC,NOWRT, RD , EXE,NOSHR, LCL, REL, CON,NOPIC,ALIGN(2)

                    Library Statistics

                            -------- Symbols --------   Pages   Processing
        File   Total   Loaded Percent   Mapped   Time

_255DUA28:[SYSLIB]STARLET.L32;1   9776   6   0   581   00:01.0
_255DUA28:[LINKER.OBJ]DATBAS.L32;1   538   5   0   28   00:00.5

                    COMMAND QUALIFIERS

LNK_INIT
V04=000

B 16
16-Sep-1984 00:05:15   VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:40:30   [LINKER.SRC]LNKINI.B32;1

Page 4
(2)

```
;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:LNKINI/OBJ=OBJ$:LNKINI MSRC$:LNKINI/UPDATE=(ENH$:LNKINI)

; Size:           83 code + 0 data bytes
; Run Time:          00:03.8
; Elapsed Time:      00:14.1
; Lines/CPU Min:     3435
; Lexemes/CPU-Min:   9562
; Memory Used:  44 pages
; Compilation Complete
```

LNKDYNMEM
LIS

LNKMAPRTN
LIS

LINKMSG
LIS

LNKELAPST
LIS

LNKIMGOUT
LIS

LNKDATBAS
LIS

LNKGETCMD
LIS

LNKINI
LIS

LNKERROUT
LIS