```
FFFFFFFFFFFFFFF        111              111        XXX         XXX
FFFFFFFFFFFFFFF        111              111        XXX         XXX
FFFFFFFFFFFFFFF        111              111        XXX         XXX
FFF                 111111           111111        XXX         XXX
FFF                 111111           111111        XXX         XXX
FFF                 111111           111111        XXX         XXX
FFF                    111              111           XXX   XXX
FFF                    111              111           XXX   XXX
FFF                    111              111           XXX   XXX
FFFFFFFF.FFF           111              111              XXX
FFFFFFFFFFFF           111              111              XXX
FFFFFFFFFFFF           111              111              XXX
FFF                    111              111           XXX   XXX
FFF                    111              111           XXX   XXX
FFF                    111              111           XXX   XXX
FFF                    111              111        XXX         XXX
FFF                    111              111        XXX         XXX
FFF                    111              111        XXX         XXX
FFF                 111111111        111111111     XXX         XXX
FFF                 111111111        111111111     XXX         XXX
FFF                 111111111        111111111     XXX         XXX
```

```
_$25
Symb
----
IOC$
IO_C
IO_C
IO_D
IO_F
IO_S
KILL

KILL
KILL
LB_E
LB_D
LB_F
LB_H
LB_L
LOCA
LOCA
LOCK

LOCK
LOCK
LOCK
LOC_
LOC_
L_CO
L_CO
L_DA
L_DA
MAIN
MAKE
MAKE
MAKE
MAKE
MAKE
MAKE

MAKE
MAKE
MAP_
MAP_

MAP
MARK
MARK
MARK
MARK
MARK
```

```
LL            000000      CCCCCCCC  KK      KK  DDDDDDDD    NN      NN
LL            000000      CCCCCCCC  KK      KK  DDDDDDDD    NN      NN
LL          00      00  CC          KK      KK  DD      DD  NN      NN
LL          00      00  CC          KK      KK  DD      DD  NN      NN
LL          00      00  CC          KK    KK    DD      DD  NNNN    NN
LL          00      00  CC          KK    KK    DD      DD  NNNN    NN
LL          00      00  CC          KKKKKK      DD      DD  NN  NN  NN
LL          00      00  CC          KKKKKK      DD      DD  NN  NN  NN
LL          00      00  CC          KK    KK    DD      DD  NN    NNNN
LL          00      00  CC          KK    KK    DD      DD  NN    NNNN
LL          00      00  CC          KK      KK  DD      DD  NN      NN      ....
LL          00      00  CC          KK      KK  DD      DD  NN      NN      ....
LLLLLLLLLL    000000      CCCCCCCC  KK      KK  DDDDDDDD    NN      NN      ....
LLLLLLLLLL    000000      CCCCCCCC  KK      KK  DDDDDDDD    NN      NN      ....

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          .TITLE  LOCKDN - LOCK FCP INTO REAL MEMORY
                        2          .IDENT  'V04-000'
                        3
                        4  ;
                        5  ;*****************************************************************************
                        6  ;*                                                                           *
                        7  ;*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                  *
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                       14  ;*  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY     *
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                       22  ;*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS     *
                       23  ;*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                   *
                       24  ;*                                                                           *
                       25  ;*                                                                           *
                       26  ;*****************************************************************************
                       27
                       28  ;++
                       29  ;
                       30  ; FACILITY:  F11ACP STRUCTURE LEVEL 1
                       31  ;
                       32  ; ABSTRACT:
                       33  ;
                       34  ;       THIS ROUTINE TOUCHES ALL OF THE PAGES IN FCP TO BRING THEM
                       35  ;       INTO REAL MEMORY.
                       36  ;
                       37  ; ENVIRONMENT:
                       38  ;
                       39  ;       STARLET OPERATING SYSTEM, INCLUDING PRIVILEGED SYSTEM SERVICES
                       40  ;       AND INTERNAL EXEC ROUTINE.
                       41  ;
                       42  ; AUTHOR:  ANDREW C. GOLDSTEIN, CREATION DATE:  22-DEC-1976  14:46
                       43  ;
                       44  ; MODIFIED BY:
                       45  ;
                       46  ;       B0100   ACG00001        Andrew C. Goldstein,  10-Oct-1978  20:01
                       47  ;       Previous revision history moved to [F11B.SRC]F11B.REV
                       48  ;--
                       49
                       50  ;
                       51  ; DEFINE LABELS FOR THE START AND END OF THE LOCKED DOWN AREAS
                       52  ;
00000000               53          .PSECT  $LOCKEDC0$,NOWRT,PAGE
                       54  LCODE_START:
                       55
00000000               56          .PSECT  $LOCKEDC9$,NOWRT,LONG                                   ; Ro
                       57  LCODE_END:
```

```
                        0000     58
                    00000000     59          .PSECT  $LOCKEDD0$,NOEXE,LONG
                        0000     60 LDATA_START:
                        0000     61
                    00000000     62          .PSECT  $LOCKEDD9$,NOEXE,LONG
                        0000     63 LDATA_END:
                        0000     64
                    00000000     65          .PSECT  $LOCKEDD1$,NOEXE,LONG
                        0000     66 ;
                        0000     67 ; OWN STORAGE:
                        0000     68 ;
                00000004  0000     69 WORKING_SET:    .BLKL   1               ; SPACE TO RECEIVE WORKING SET SIZE
                00000046  0004     70 SET_SIZE::      .LONG   70              ; SIZE TO ADJUST WORKING SET TO
                00000010  0008     71 LAST_PAGE:      .BLKL   2               ; SPACE TO RECEIVE LAST PAGE POINTERS
                          0010     72
                          0010     73 ;
                          0010     74 ; DESCRIPTORS TO LOCK DOWN THE CODE AND DATA AREAS THAT ARE TO BE LOCKED INTO
                          0010     75 ; THE WORKING SET
                          0010     76 ;
                    00000000     77          .PSECT  $CODE$,NOWRT,LONG
                        0000     78
FFFFFFFF'00000000'  0000     79 LOCKED_CODE:    .LONG   LCODE_START,LCODE_END-1
FFFFFFFF'00000000'  0008     80 LOCKED_DATA:    .LONG   LDATA_START,LDATA_END-1
```

```
                        0010     82 ;++
                        0010     83 ;
                        0010     84 ; FUNCTIONAL DESCRIPTION:
                        0010     85 ;
                        0010     86 ;       THIS ROUTINE TOUCHES ALL OF THE PAGES IN FCP TO BRING THEM
                        0010     87 ;       INTO REAL MEMORY.
                        0010     88 ;
                        0010     89 ; CALLING SEQUENCE:
                        0010     90 ;       CALL LOCKDOWN ()
                        0010     91 ;       NONE
                        0010     92 ;
                        0010     93 ; INPUT PARAMETERS:
                        0010     94 ;       NONE
                        0010     95 ;
                        0010     96 ; IMPLICIT INPUTS:
                        0010     97 ;       NONE
                        0010     98 ;
                        0010     99 ; OUTPUT PARAMETERS:
                        0010    100 ;       NONE
                        0010    101 ;
                        0010    102 ; IMPLICIT OUTPUTS:
                        0010    103 ;       NONE
                        0010    104 ;
                        0010    105 ; ROUTINE VALUE:
                        0010    106 ;       NONE
                        0010    107 ;
                        0010    108 ; SIDE EFFECTS:
                        0010    109 ;       ALL OF FCP RESIDING IN REAL MEMORY
                        0010    110 ;
                        0010    111 ;--
                        0010    112
                        0010    113 LOCKDOWN::
                0000    0010    114         .WORD   ^M<>
                        0012    115 ;
                        0012    116 ; ADJUST THE WORKING SET SIZE TO A SUITABLE VALUE
                        0012    117 ;
                        0012    118         $ADJWSL_S  #0,W^WORKING_SET     ; READ CURRENT SIZE
     50 0004'CF 0000'CF C3      001F    119         SUBL3      W^WORKING_SET,W^SET_SIZE,R0 ; COMPUTE INCREMENT
                        0027    120         $ADJWSL_S  R0,W^WORKING_SET     ; AND SET TO DESIRED SIZE
                        0034    121 ;
                        0034    122 ; LOCK INTO THE WORKING SET THE CODE AND DATA AREAS THAT SHOULD BE.
                        0034    123 ;
                        0034    124         $LKWSET_S  LOCKED_CODE
                        0042    125         $LKWSET_S  LOCKED_DATA
                        0050    126 ;
                        0050    127 ; EXPAND THE PROGRAM REGION BY ONE PAGE TO GET THE ADDRESS OF THE TOP.
                        0050    128 ; THIS PAGE WILL NEVER BE TOUCHED AND WILL THEREFORE REMAIN DEMAND ZERO.
                        0050    129 ;
                        0050    130         $EXPREG_S  #1,LAST_PAGE,REGION=#0
                        0063    131 ;
                        0063    132 ; NOW TOUCH ALL PAGES UP TO THE ONE CREATED.
                        0063    133 ;
        50 00000200 9F  9E      0063    134         MOVAB   @#^X200,R0      ; START WITH PAGE 1
                    60  D5      006A    135 10$:    TSTL    (R0)            ; TOUCH IT
50 00000200 8F  00000008'EF F1  006C    136         ACBL    LAST_PAGE,#^X200,R0,10$  ; NEXT PAGE AND LOOP
                    FFF0        0078
                    04          007A    137         RET
```

```
                0078    138
                0078    139
                0078    140
                0078    141             .END
```

```
$$T1            = 00000000
ACL_TYPE        = 00000007
AQB_TYPE        = 00000005
BITMAP_TYPE     = 00000001
CACHE_TYPE      = 00000006
CHIP_TYPE       = 00000008
DATA_TYPE       = 00000004
DIRECTORY_TYPE  = 00000002
FCB_TYPE        = 00000000
HEADER_TYPE     = 00000000
INDEX_TYPE      = 00000003
LAST_PAGE         00000008 R      05
LCODE_END         00000000 R      02
LCODE_START       00000000 R      01
LDATA_END         00000000 R      04
LDATA_START       00000000 R      03
LOCKDOWN          00000010 RG     06
LOCKED_CODE       00000000 R      06
LOCKED_DATA       00000008 R      06
MVL_TYPE        = 00000004
QUOTA_TYPE      = 00000005
RVT_TYPE        = 00000003
SET_SIZE          00000004 RG     05
SYS$ADJWSL        ******** GX     06
SYS$EXPREG        ******** GX     06
SYS$LKWSET        ******** GX     06
VCB_TYPE        = 00000002
WCB_TYPE        = 00000001
WORKING_SET       00000000 R      05
```

Psect synopsis

PSECT name	Allocation	PSECT No.	Attributes
. ABS .	00000000 (0.)	00 (0.)	NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
$LOCKEDC0$	00000000 (0.)	01 (1.)	NOPIC USR CON REL LCL NOSHR EXE RD NOWRT NOVEC PAGE
$LOCKEDC9$	00000000 (0.)	02 (2.)	NOPIC USR CON REL LCL NOSHR EXE RD NOWRT NOVEC LONG
$LOCKEDD0$	00000000 (0.)	03 (3.)	NOPIC USR CON REL LCL NOSHR NOEXE RD WRT NOVEC LONG
$LOCKEDD9$	00000000 (0.)	04 (4.)	NOPIC USR CON REL LCL NOSHR NOEXE RD WRT NOVEC LONG
$LOCKEDD1$	00000010 (16.)	05 (5.)	NOPIC USR CON REL LCL NOSHR NOEXE RD WRT NOVEC LONG
$CODE$	0000007B (123.)	06 (6.)	NOPIC USR CON REL LCL NOSHR EXE RD NOWRT NOVEC LONG

Performance indicators

Phase	Page faults	CPU Time	Elapsed Time
Initialization	29	00:00:00.09	00:00:01.22
Command processing	113	00:00:00.67	00:00:02.92
Pass 1	121	00:00:01.00	00:00:03.25
Symbol table sort	0	00:00:00.02	00:00:00.02
Pass 2	40	00:00:00.55	00:00:01.23
Symbol table output	4	00:00:00.03	00:00:00.04
Psect synopsis output	2	00:00:00.04	00:00:00.05

```
Cross-reference output              0     00:00:00.00    00:00:00.00
Assembler run totals              312     00:00:02.40    00:00:08.74

The working set limit was 1050 pages.
3647 bytes (8 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 29 non-local and 1 local symbols.
242 source lines were read in Pass 1, producing 21 object records in Pass 2.
7 pages of virtual memory were used to define 7 macros.

                                        +----------------------------+
                                        ! Macro library statistics !
                                        +----------------------------+

Macro library name                       Macros defined
------------------                       --------------
_$255$DUA28:[SYS.OBJ]LIB.MLB;1                         0
_$255$DUA28:[SYSLIB]STARLET.MLB;2                      5
TOTALS (all libraries)                                 5

41 GETS were required to define 5 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS$:LOCKDN/OBJ=OBJ$:LOCKDN MSRC$:FCPPRE/UPDATE=(ENH$:FCPPRE)+MSRC$:LOCKDN/UPDATE=(ENH$:LOCKDN)+EXECML$/LIB
```

PMS
LIS

QUOTAUTIL
LIS

MAKPTR
LIS

MATCHNAME
LIS

MPWIND
LIS

LOCKDB
LIS

LOCKERS
LIS

MAKACC
LIS

PARSNM
LIS

MAPVBN
LIS

IODONE
LIS

LOCKDN
LIS

MODIFY
LIS

MOUNT
LIS

NXTHDR
LIS

MAKNMB
LIS

MAKSTR
LIS