```
CCCCCCCCCCCC   RRRRRRRRRRRR      FFFFFFFFFFFFFFF
CCCCCCCCCCCC   RRRRRRRRRRRR      FFFFFFFFFFFFFFF
CCCCCCCCCCCC   RRRRRRRRRRRR      FFFFFFFFFFFFFFF
CCC            RRR        RRR    FFF
CCC            RRR        RRR    FFF
CCC            RRR        RRR    FFF
CCC            RRR        RRR    FFF
CCC            RRR        RRR    FFF
CCC            RRR        RRR    FFF
CCC            RRRRRRRRRRRR      FFFFFFFFFFFF
CCC            RRRRRRRRRRRR      FFFFFFFFFFFF
CCC            RRRRRRRRRRRR      FFFFFFFFFFFF
CCC            RRR    RRR        FFF
CCC            RRR    RRR        FFF
CCC            RRR    RRR        FFF
CCC            RRR        RRR    FFF
CCC            RRR        RRR    FFF
CCC            RRR        RRR    FFF
CCCCCCCCCCCC   RRR           RRR FFF
CCCCCCCCCCCC   RRR           RRR FFF
CCCCCCCCCCCC   RRR           RRR FFF
```

```
CCCCCCCC  RRRRRRR   FFFFFFFFFF  TTTTTTTTTT  FFFFFFFFF  RRRRRRR   VV      VV  EEEEEEEEEE  CCCCCCCC
CCCCCCCC  RRRRRRR   FFFFFFFFFF  TTTTTTTTTT  FFFFFFFFF  RRRRRRR   VV      VV  EEEEEEEEEE  CCCCCCCC
CC        RR    RR  FF              TT      FF         RR    RR  VV      VV  EE               CC
CC        RR    RR  FF              TT      FF         RR    RR  VV      VV  EE               CC
CC        RR    RR  FF              TT      FF         RR    RR  VV      VV  EE               CC
CC        RRRRRRR   FFFFFFF         TT      FFFFFFF    RRRRRRR   VV      VV  EEEEEEE          CC
CC        RRRRRRR   FFFFFFF         TT      FFFFFFF    RRRRRRR   VV      VV  EEEEEEE          CC
CC        RR  RR    FF              TT      FF         RR  RR    VV      VV  EE               CC
CC        RR  RR    FF              TT      FF         RR  RR    VV      VV  EE               CC
CC        RR    RR  FF              TT      FF         RR    RR    VV  VV    EE               CC
CC        RR    RR  FF              TT      FF         RR    RR    VV  VV    EE               CC
CCCCCCC   RR    RR  FF              TT      FF         RR    RR      VV      EEEEEEEEEE   CCCCCCC
CCCCCCC   RR    RR  FF              TT      FF         RR    RR      VV      EEEEEEEEEE   CCCCCCC
```

```
LL          IIIIII   SSSSSSSS
LL          IIIIII   SSSSSSSS
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
LLLLLLLLL   IIIIII   SSSSSSSS
LLLLLLLLL   IIIIII   SSSSSSSS
```

```
0000      1              .TITLE  CRF_TRANSFER
0000      2              :IDENT  'V04-000'
0000      3
0000      4      ;
0000      5      ;*********************************************************************
0000      6      ;*
0000      7      ;*   COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                         *
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0000     23      ;*   SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.         *
0000     24      ;*                                                                   *
0000     25      ;*                                                                   *
0000     26      ;*********************************************************************
0000     27      ;
0000     28
0000     29      ;++
0000     30      ; FACILITY:  CROSS REFERENCE PROGRAM
0000     31      ;
0000     32      ; ABSTRACT:  DEFINE TRANSFER VECTOR FOR CRF ENTRY POINTS
0000     33      ;
0000     34      ;
0000     35      ; ENVIRONMENT:  PART OF SHARABLE IMAGE
0000     36      ;
0000     37      ; AUTHOR: K.D. MORSE, CREATION DATE:  20-JUN-78
0000     38      ;
0000     39      ; MODIFIED BY:
0000     40      ;
0000     41      ;        , : VERSION
0000     42      ; V01.01          005      B. L. SCHREIBER          19-SEP-1979
0000     43      ;                 Add LIB$CRF_INS_KEY, LIB$CRF_INS_REF and LIB$CRF_OUTPUT
0000     44      ; V01.02                   B. C. SCHREIBER          8-JAN-1980
0000     45      ;                 Add CRF$GET_MEM and CRF$FREE_MEM
0000     46      ;--
```

```
0000    48          .SBTTL  DECLARATIONS
0000    49  ;
0000    50  ; INCLUDE FILES:
0000    51  ;
0000    52
0000    53  ;
0000    54  ; MACROS:
0000    55  ;
0000    56
0000    57
0000    58  ;
0000    59  ; EQUATED SYMBOLS:
0000    60  ;
0000    61
0000    62
0000    63  ;
0000    64  ; OWN STORAGE:
0000    65  ;
0000    66
```

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CRF_TRANSFER   15-SEP-1984 23:38:41   VAX/VMS Macro V04-00   Page 3
VO4=000   TRANSFER_VECTORS   4-SEP-1984 23:39:06   [CRF.SRC]CRFTFRVEC.MAR;1   (3)

```
                    0000      68            .SBTTL  TRANSFER_VECTORS
                    0000      69  ;++
                    0000      70  ; FUNCTIONAL DESCRIPTION:
                    0000      71  ;
                    0000      72  ; THIS MODULE DEFINES THE TRANSFER VECTORS FOR THE ENTRY POINTS CALLED
                    0000      73  ; BY A USER OF CRF.  THIS MODULE ENABLES CRF TO BE LINKED AS A SHARABLE IMAGE.
                    0000      74  ;
                    0000      75  ; CALLING SEQUENCE:
                    0000      76  ;
                    0000      77  ;       NONE
                    0000      78  ;
                    0000      79  ; INPUT PARAMETERS:
                    0000      80  ;
                    0000      81  ;       NONE
                    0000      82  ;
                    0000      83  ; IMPLICIT INPUTS:
                    0000      84  ;
                    0000      85  ;       NONE
                    0000      86  ;
                    0000      87  ; OUTPUT PARAMETERS:
                    0000      88  ;
                    0000      89  ;       NONE
                    0000      90  ;
                    0000      91  ; IMPLICIT OUTPUTS:
                    0000      92  ;
                    0000      93  ;       NONE
                    0000      94  ;
                    0000      95  ; COMPLETION CODES:
                    0000      96  ;
                    0000      97  ;       NONE
                    0000      98  ;
                    0000      99  ; SIDE EFFECTS:
                    0000     100  ;
                    0000     101  ;       NONE
                    0000     102  ;
                    0000     103  ;--
                    0000     104
                    0000     105
                00000000     106            .PSECT  $$VECTOR_0_CRF,PIC,SHR,NOWRT,EXE
                    0000     107
                    0000     108  CRF_TRANSFER:
                    0000     109            .TRANSFER       CRF$INSRTKEY      ; INSERTS A CROSS REFERENCE KEY
           0000'   0000     110            .MASK           CRF$INSRTKEY
      FFFD'  31    0002     111            BRW             CRF$INSRTKEY+2
                    0005     112
                    0005     113            .TRANSFER       CRF$INSRTREF      ; INSERTS A REFERENCE TO A KEY
           0000'   0005     114            .MASK           CRF$INSRTREF
      FFF8'  31    0007     115            BRW             CRF$INSRTREF+2
                    000A     116
                    000A     117            .TRANSFER       CRF$OUT           ; OUTPUTS CROSS REFERENCE SUMMARY
           0000'   000A     118            .MASK           CRF$OUT
      FFF3'  31    000C     119            BRW             CRF$OUT+2
                    000F     120
                    000F     121            .TRANSFER       LIB$CRF_INS_KEY        ; INSERT CROSS REFERENCE KEY
           0000'   000F     122            .MASK           LIB$CRF_INS_KEY
      FFEE'  31    0011     123            BRW             LIB$CRF_INS_KEY+2
                    0014     124
```

CRF_TRANSFER
V04=000

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TRANSFER_VECTORS

15-SEP-1984 23:38:41 VAX/VMS Macro V04-00   Page   4
4-SEP-1984 23:39:06 [CRF.SRC]CRFTFRVEC.MAR;1   (3)

```
                    0014  125        .TRANSFER    LIB$CRF_IN_REF        ; INSERT REFERENCE TO A KEY
            0000'   0014  126        .MASK        LIB$CRF_INS_REF
FFE9'   31          0016  127        BRW          LIB$CRF_INS_REF+2
                    0019  128
                    0019  129        .TRANSFER    LIB$CRF_OUTPUT       ; OUTPUT CROSS REFERENCE
            0000'   0019  130        .MASK        LIB$CRF_OUTPUT
FFE4'   31          001B  131        BRW          LIB$CRF_OUTPUT+2
                    001E  132
                    001E  133        .TRANSFER    CRF$GET_MEM         ; ALLOCATE DYNAMIC MEMORY
FFDF'   31          001E  134        BRW          CRF$GET_MEM         ; JSB ENTRY
                    0021  135
                    0021  136        .TRANSFER    CRF$FREE_MEM        ; DEALLOCATE DYNAMIC MEMORY
FFDC'   31          0021  137        BRW          CRF$FREE_MEM
                    0024  138
00000200            0024  139        .BLKB        512-<.-CRF_TRANSFER>  ; PAD TO FULL PAGE
                    0200  140        .END
```

```
CRF$FREE_MEM      ********   X   01
CRF$GET_MEM       ********   X   01
CRF$INSRTKEY      ********   X   01
CRF$INSRTREF      ********   X   01
CRF$OUT           ********   X   01
CRF_TRANSFER      00000000 R     01
LIB$CRF_INS_KEY   ********   X   01
LIB$CRF_INS_REF   ********   X   01
LIB$CRF_OUTPUT    ********   X   01
```

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

PSECT name	Allocation	PSECT No.	Attributes
. ABS .	00000000 (0.)	00 (0.)	NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
$$VECTOR_0_CRF	00000200 (512.)	01 (1.)	PIC USR CON REL LCL SHR EXE RD NOWRT NOVEC BYTE

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

Phase	Page faults	CPU Time	Elapsed Time
Initialization	31	00:00:00.10	00:00:00.46
Command processing	134	00:00:00.54	00:00:01.91
Pass 1	73	00:00:00.43	00:00:01.18
Symbol table sort	0	00:00:00.00	00:00:00.00
Pass 2	39	00:00:00.31	00:00:00.74
Symbol table output	3	00:00:00.01	00:00:00.03
Psect synopsis output	1	00:00:00.01	00:00:00.01
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	283	00:00:01.40	00:00:04.35

The working set limit was 750 pages.
1439 bytes (3 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 9 non-local and 0 local symbols.
140 source lines were read in Pass 1, producing 11 object records in Pass 2.
0 pages of virtual memory were used to define 0 macros.

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

Macro library name	Macros defined
_$2;5$DUA28:[CRF.OBJ]CRF.MLB;1	0
_255DUA28:[SYSLIB]STARLET.MLB;2	0
TOTALS (all libraries)	0

0 GETS were required to define 0 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS$:CRFTFRVEC/OBJ=OBJ$:CRFTFRVEC MSRC$:CRFTFRVEC/UPDATE=(ENH$:CRFTFRVEC)+LIB$:CRF/LIB

CRFOR
LIS

CRFMEM
LIS

CRFMACROS
MAR

CLITABDEF
SDL

FILINPUT
LIS

KEYS
LIS

CRFFRVEC
LIS

DCLDEF
MDL

CRFMDL
MDL

CREF
LIS

CRFERRMSG
LIS

CRF
SDL

CRF

CRFSUB
LIS

FILOUTPUT
LIS

CRFSHR
MAP

CRFGLOBAL
LIS

DCL

CRFMAC
REQ

DCL
MAP