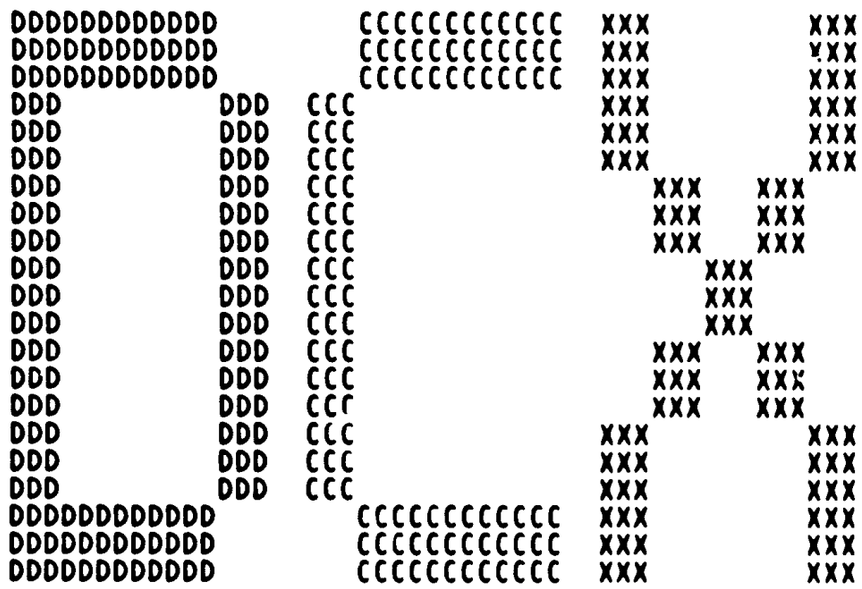

```
PPPPPPPP    RRRRRRRR    EEEEEEEEEE  FFFFFFFFFF    IIIIII    XX      XX
PPPPPPPP    RRRRRRRR    EEEEEEEEEE  FFFFFFFFFF    IIIIII    XX      XX
PP      PP  RR      RR  EE          FF              II      XX      XX
PP      PP  RR      RR  EE          FF              II      XX      XX
PP      PP  RR      RR  EE          FF              II        XX  XX
PP      PP  RR      RR  EE          FF              II        XX  XX
PPPPPPPP    RRRRRRRR    EEEEEEEE    FFFFFFFF        II          XX
PPPPPPPP    RRRRRRRR    EEEEEEEE    FFFFFFFF        II          XX
PP          RR  RR      EE          FF              II        XX  XX
PP          RR  RR      EE          FF              II        XX  XX
PP          RR    RR    EE          FF              II      XX      XX      ....
PP          RR    RR    EE          FF              II      XX      XX      ....
PP          RR      RR  EEEEEEEEEE  FF          IIIIII    XX      XX      ....
PP          RR      RR  EEEEEEEEEE  FF          IIIIII    XX      XX      ....

RRRRRRRR    EEEEEEEEEE    000000
RRRRRRRR    EEEEEEEEEE    000000
RR      RR  EE          00      00
RR      RR  EE          00      00
RR      RR  EE          00      00
RR      RR  EE          00      00
RRRRRRRR    EEEEEEEE    00      00
RRRRRRRR    EEEEEEEE    00      00
RR  RR      EE          00  00  00
RR  RR      EE          00  00  00
RR    RR    EE          00    00
RR    RR    EE          00    00
RR      RR  EEEEEEEEEE    0000  00
RR      RR  EEEEEEEEEE    0000  00
```

```
!
! Require file for DCX - Data Compression / Expansion Facility
!
! Version:      'V04-000'
!
!****************************************************************************
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!*                                                                          *
!****************************************************************************

!++
!   FACILITY:
!
!       DCX -- Data Compression / Expansion Facility
!
!   ABSTRACT:
!
!       The Data Compression / Expansion procedures provide a general
!       method for reducing the storage requirement for a arbitrary data.
!
! ENVIRONMENT:
!
!       VAX native, user mode.
!
!--
!
! AUTHOR:  David Thiel
!
! CREATION DATE: July, 1982
!
! MODIFIED BY:
!
!--
```

```
!
! Common built-in functions
!
BUILTIN
    insque,
    remque;

!
! Define VMS block structures
!
MACRO
    BBLOCK = $BBLOCK%;          ! use common definition

!
! Define routine linkages
!
LINKAGE
    lkg_ctx_check =
        JSB (REGISTER = 0, REGISTER = 1) :
            NOPRESERVE (0, 1) NOTUSED (2, 3, 4, 5, 6, 7, 8, 9, 10, 11),
    lkg_do =
        CALL ( ; REGISTER = 0, REGISTER = 1),
    lkg_long_move =
        JSB (REGISTER = 0, REGISTER = 1, REGISTER = 2) :
            NOPRESERVE (0, 1, 2) PRESERVE (3, 4, 5, 6) NOTUSED (7, 8, 9, 10, 11),
    lkg_map_check =
        JSB (REGISTER = 0) :
            NOPRESERVE (0, 1) NOTUSED (2, 3, 4, 5, 6, 7, 8, 9, 10, 11);

!
! Linkage to LIB$ANALYZE_SDESC_R2
!
LINKAGE
    jsb_analyze_sdesc_r2 =
        JSB (REGISTER = 0; REGISTER = 0, REGISTER = 1, REGISTER = 2) :
            NOPRESERVE (0, 1, 2) NOTUSED (3, 4, 5, 6, 7, 8, 9, 10, 11);

EXTERNAL ROUTINE
    lib$analyze_sdesc_r2 :
        jsb_analyze_sdesc_r2
        NOVALUE
        ADDRESSING_MODE (GENERAL);

!
! Useful macros
!
MACRO
!
! Macro to generate a pointer to a counted string
!
    cstring (string) = UPLIT (%ASCIC string )%,
!
! Macro to describe a string
!
    stringdesc (string) = %CHARCOUNT (string), UPLIT (%ASCII string)%,
!
```

```
! Macro to generate a quadword string descriptor

    descriptor (string) = BBLOCK [dsc$c_s_bln] INITIAL (stringdesc (string))%,

! Macro to generate a counted string

    countedstring (string) = VECTOR [%CHARCOUNT (string)+1, BYTE] INITIAL (BYTE (%CHARCOUNT(string), %ASCII string ))%,

! Macro to execute a given sequence of commands and return if any error

    perform [] =
        BEGIN
        LOCAL
            status;
        status = (%REMAINING);
        IF NOT .status                  ! If error detected,
        THEN
            RETURN .status;             ! then return with error
        .status                         ! Otherwise, status is block value
        END%;


! Macros to ease typing

MACRO
    short = UNSIGNED (6)%,              ! Short attribute
    bytlit = UNSIGNED (8)%,             ! Unsigned byte attribute
    wordlit = UNSIGNED (16)%;           ! Unsigned word attribute

! Equated symbols

LITERAL
    true        =       1,              ! Boolean TRUE
    false       =       0;              ! Boolean FALSE
```

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PREFIX
REQ

STACLINT
LIS

STATUS
LIS

ANALYZE
LIS

DCXMSG
LIS

STASTUB
LIS

DCXDEF
MDL

EXPAND
LIS

SYSOUTPUT
LIS

DCXPRVDEF
MDL

STATEMENT
LIS

DCX

COMPRESS
LIS

TRANSFER
LIS

SYMBOL
LIS

DCXSHR
MAP

SUBS
LIS