FROM: Louis Pouzin

SUBJECT: Reading and Writing The Disk

MAD calling sequences for FOREGROUND library subroutines.

1. The Foreground library provides a set of subroutines which
may be used in MAD programs. The following list is in the
same order as the FAP calls to the disk routines presented
in CTSS Programmer's Guide (p. 46 - 52). For a pertinent
usage of these programs it is necessary to know the
conventions and restrictions described from p. 57 - 62.

   A MAD call will be written: EXECUTE followed by any of
subroutine names, specified below.

DSKDMP.(FILNAM, A, N)

> FILNAM(0)   is the primary name of the file
>
> FILNAM(1)   is the secondary name
>
> A is the first word of the vector to be dumped
>
> N is the number of words to be dumped

Ex.

> VECTOR VALUES FILNAM = $ BLOB BSS$
>
> DIMENSION A(1000)
>
> EXECUTE DSKDMP.(FILNAM, A, 1001)

   The file BLOB BSS will be created as a permanent file.
Its content will be A(1000)...A(0). There is no attempt
to delete any previous copy with the same names.

DSKLOD.(FILNAM, A, N)

   Same conventions as with DSKDMP.

ASSIGN.(FILNAM, [,WBUF1 [WBUF2]])

   The content of a pair of square brackets is optional.

   WBUF1 or WBUF2, when specified, must be a continuous block
of 470 words.

> Ex.   DIMENSION WBUF1(469)
>
> EXECUTE ASSIGN.(FILNAM, WBUF 1)

BWRITE.(FILNAM, list)

"list" may be any mixing of single variables and block notation vectors.

Ex.

EXECUTE BWRITE.(FILNAM, X, Z, A(3)...A(15), A, C(0)...C(13), K)

The words are written onto the file FILNAM in the order:

X Z A(3)...A(15) A C(0)...C(13) K

DWRITE.(FILNAM, FMT, list)

Same conventions as above, but in addition the words taken from the "list" will be edited through (IOH) according to the format FMT.

APPEND.(FILNAM [,WBUF1 [,WBUF2]])

Same conventions as for ASSIGN.

FILE.(FILNAM)

The file FILNAM is of permanent mode. No attempt to delete any previous file with the same names.

SEEK.(FILNAM, [,WBUF1 [,WBUF2]])

Same conventions as for ASSIGN.

BREAD.(FILNAM, list)

Same conventions as for BWRITE.

DREAD.(FILNAM, FMT, list)

Same conventions as for DWRITE.

ENDRD.(FILNAM)

DELETE.(FILNAM)

2. END OF FILE Procedure

As a standard setting the control is transferred to a subroutine EOFXIT when an end of file occurs on reading a file through one of the preceding subroutines. EOFXIT normally prints a comment and goes to EXIT. This process may be modified by the following calls:

SETEOF.(LABEL, NAME1, NAME2)

If an end of file occurs the control will be transferred to the statement labelled LABEL, and NAME1 NAME2 will contain the primary and secondary names of the ending file.

SETEOF.(LABEL, T)

This type of call is used along with statements specifying tapes. An end of file will return in T, as an integer, the tape number.

SETEOF.(LABEL)

SETEOF.   Reset the standard exit. On a general rule every call is active until reset by a new call.

WRDCNT.(W)   returns in W the number of words filled by the BREAD. call which produced the end of file. (Not available for DREAD.)

3. Error Procedure

Any call from a library subroutine to a disk routine is provided with an error return. Whenever an error is not expected as a normal return, the control is transferred to a subroutine SNAP, with all machine conditions kept in the same status as on the error return. SNAP prints a comment and calls RECOUP on the following way:

        CALL RECOUP(ERTP, IR4, IND)

where ERTP contains the logical AC when the error occurred,

IR4	"	index register 4	"(in the decrement)
IND	"	indicators	"

the indicators contain in the decrement the address of the offending TSX to the disk routine. (Address where the TSX is stored)