

IDENTIFICATION

FASTIN - a fast (7000 events/sec) OGO-II, IV abstract tape reading program.

Jack Fanselow, August 1970.

USAGE

The usage of this subroutine closely parallels that of INPUT.

The following call

"CALL FASTIN"

will place the next event (or A/O record) into the common block:

COMMON/INDATA/IOH(112), IED(38),M,IND

where IOH is filled for an A/O record

IED is filled for an event record

M = 1 signifies event record

= 0 signifies event record

= -1 signifies end of file

IND must be set to '0' in order to read 7 track tapes,

and set to '1' to read 9 track tapes

Unlike INPUT, not all values of IOH and IED are returned.

Returned are:

IOH(1) = fixed point day number

IOH(19)-IOH(111) = floating point double precision
OH(10)-OH(55) words exactly as INPUT would return
them except that the time of day,
OH(11) is in millisecc rather than
seconds

IOH(111) = 0 signifies no end of acquisition

= 1 signifies end of acquisition

IED(1) = time of day in millisecc. This is a fixed point
number

IED(15)-IED(21) IED(25)-IED(37)	}	same as from INPUT
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It is possible to select which of the IOH and IED values are to be returned by setting the corresponding values of IED and IOH to "1" on the first call.

For example, if we wanted to obtain only:

OH(10), OH(11), OH(20), IED(25), IED(26), IED(27), IED(18)

whenever FASTIN called, we could obtain this in the following manner

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REAL*8 OH(56)
EQUIVALENCE (OH, IOH)

DO 10 I = 1, 112
  IOH(I) = 0
10 CONTINUE

DO 20 I = 1, 38
  IED(I) = 0
20 CONTINUE

IOH(20) = 1
IOH(22) = 1
IOH(40) = 1
} set even index of pair to 1

IED(27) = 1
} set high order bit of rate
  scaler = 1

IED(18) = 1

```

In addition to the values requested IOH(1), and IED(1) would also be returned. For nine track tapes, if any one of the rate scalers is sought, all are returned.

ENTRY POINTS

"CALL RESET" allows the selection of what is to be returned to be altered. The same request formalism applies as was needed for the first call to FASTIN.

"CALL SKIP(NSKIP)" skips NSKIP physical records. Included in the count is the physical record which the subroutine is

presently processing. This entry may be called at any time and does not require that "FASTIN" has been called. "CALL TOTIME(IDAY,IUTMSEC)" will return the first event record for which the time and day number exceeds IUTMSEC and IDAY respectively.

- 1) IUTMSEC must be the time in millisec.
- 2) Before calling TOTIME, the initial call to FASTIN must have been made for purposes of initialization.
- 3) It might be impossible to reach the first minute or two of a day change. This arises from the fact that TOTIME skips records whenever possible. Thus, in a badly disjointed tape this entry may give erroneous results. However, with any reasonable time flow on the tape, this entry performs well.

"CALL FEOVOL" forces an end of volume. If further available through VOL = SER = (VOL1,VOL2,VOL3,...) volume switching takes place and "M" set to "0".

If volume switching is impossible, "M" set to "-1".

SUBROUTINES REQUIRED

UABEND CIT subroutine

A UABEND of '4095' implies that the entry TOTIME implies found a day number greater than IDAY.

CORE REQUIREMENTS

910₁₆ bytes exclusive of common.

DD CARD

```
//FT10F001    DD UNIT = ( { 2400-2 } ),, DEFER).
               { 2400 }
(GO.FT10F001    LABEL = (1,BLP,IN), DISP = OLD
if under FORTGCLG)    DCB = (DFN = ( { 1 } ),
                           { 2 } ),
VOL = SER = (D-2121, DC2122,....)
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