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 words exactly as INPUT would return them except that the time of day, OH(11) is in millisec rather than seconds
IOH(111) = 0 signifies no end of acquisition
           = 1 signifies end of acquisition
IED(1) = time of day in millisec. This is a fixed point number
IED(15)-IED(21)  
IED(25)-IED(37)  

{ same as from INPUT

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

```
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

IED(27) = 1
IED(28) = 1

set even index of pair to 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
910 bytes exclusive of common.

DD CARD

//FT10F001 DD UNIT = (11,2400-2/2400, DEFER). (GO,FT10F001
if under FORTGCLG) LABEL = (1,5BP,IN), DISP = OLD
DCB = [DFN = (1)]
VOL = SER = (D 2121, DC2122,...)