FIG. 1

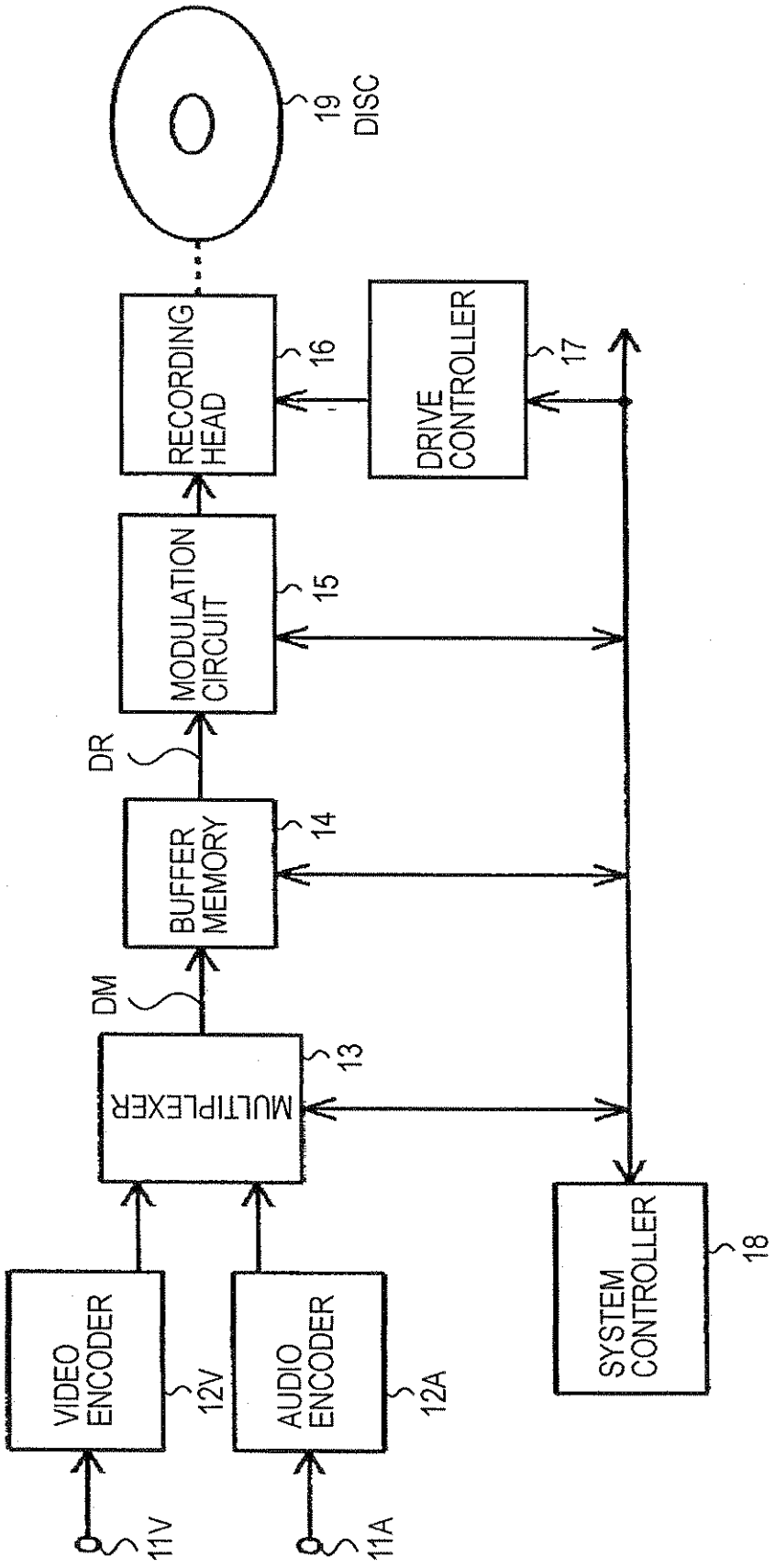

19
DISC
RECORDING HEAD
16
DRIVE CONTROLLER
17
MODULATION CIRCUIT
15
DR
BUFFER MEMORY
14
DM
MULTIPLEXER
13
VIDEO ENCODER
12V
AUDIO ENCODER
12A
SYSTEM CONTROLLER
18
11V
11A

FIG. 2

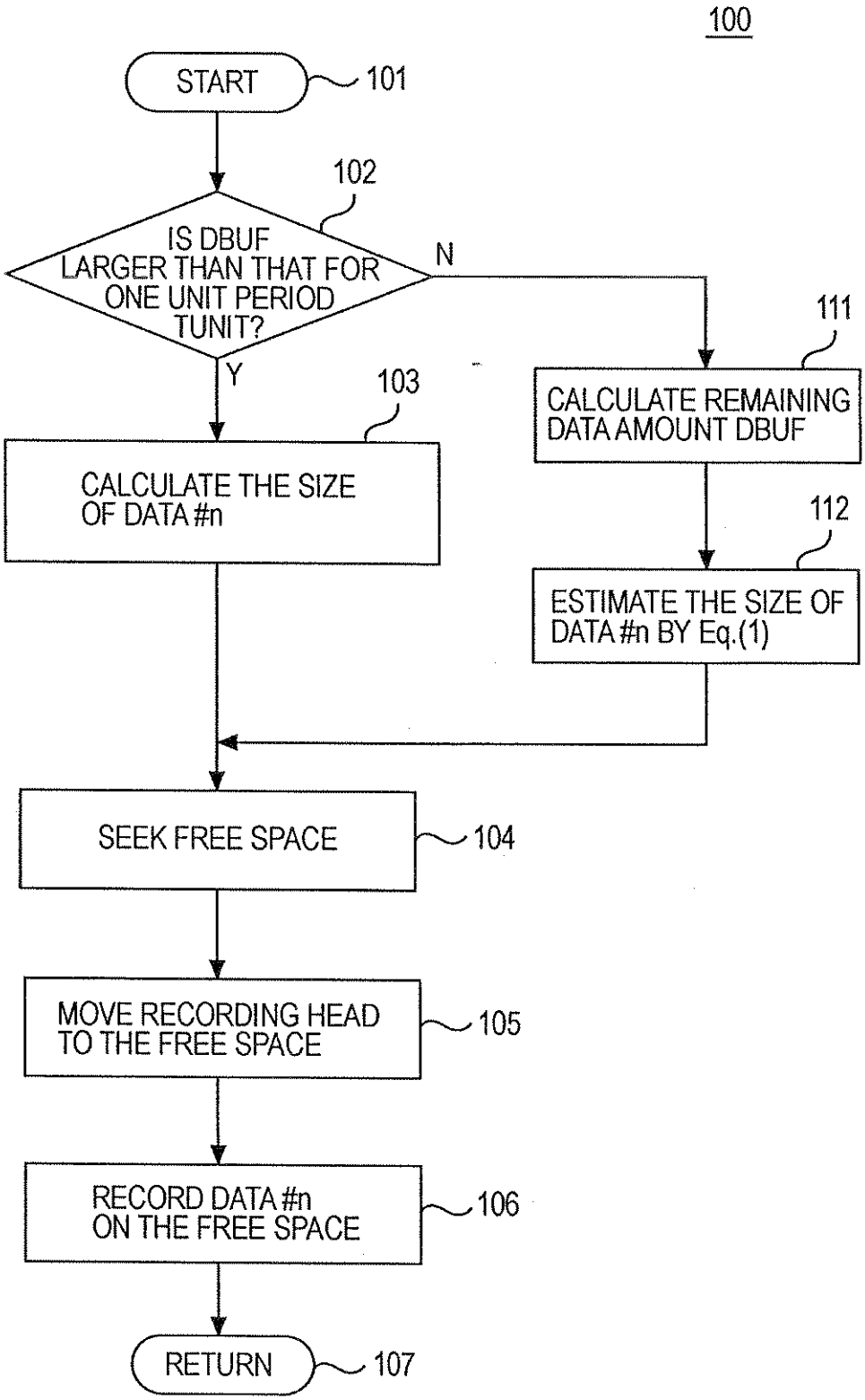

100
START
101
102
IS DBUF LARGER THAN THAT FOR ONE UNIT PERIOD TUNIT?
N
Y
111
CALCULATE REMAINING DATA AMOUNT DBUF
103
CALCULATE THE SIZE OF DATA #n
112
ESTIMATE THE SIZE OF DATA #n BY Eq.(1)
SEEK FREE SPACE
104
MOVE RECORDING HEAD TO THE FREE SPACE
105
RECORD DATA #n ON THE FREE SPACE
106
RETURN
107

FIG. 3

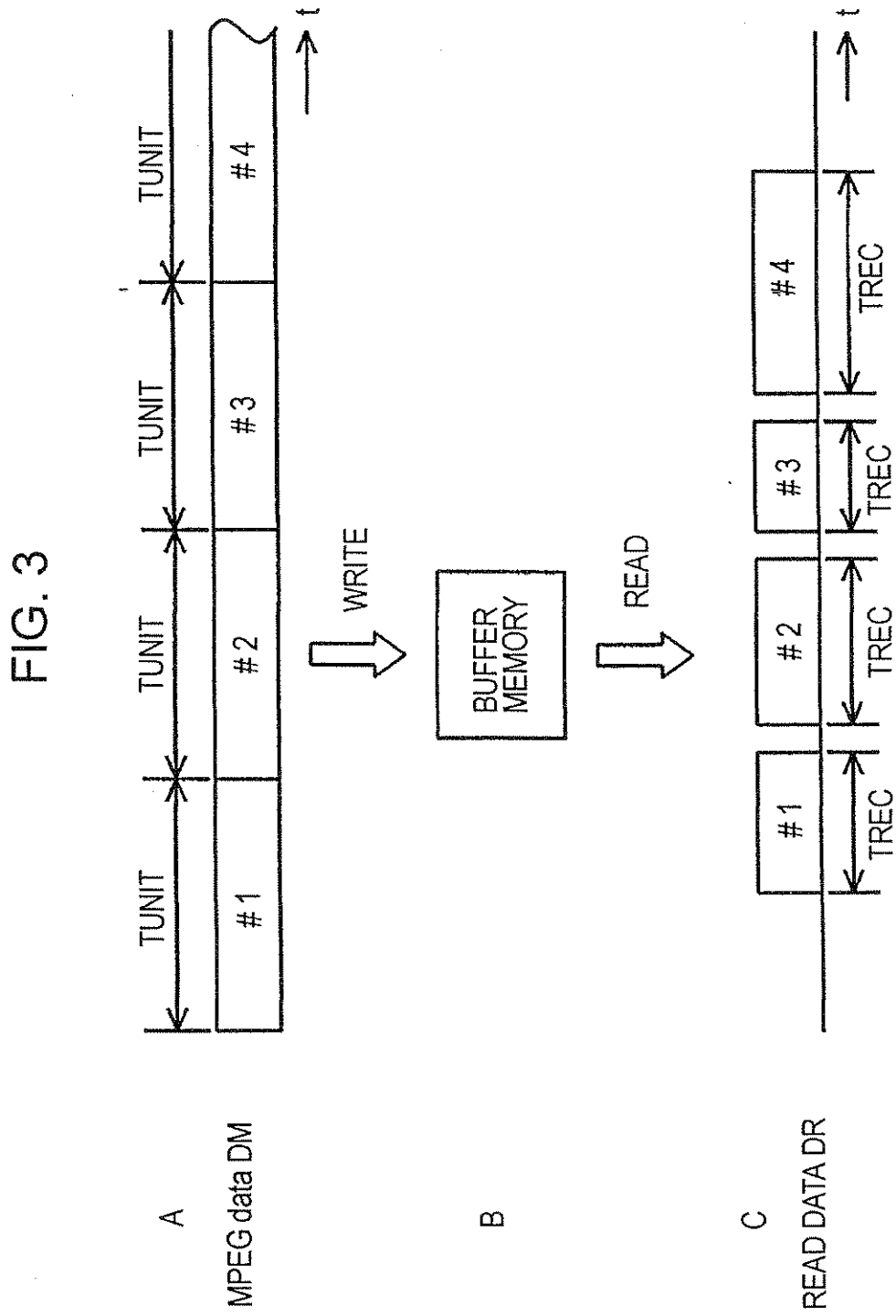

A
MPEG data DM
TUNIT
TUNIT
TUNIT
TUNIT
#1
#2
#3
#4
t
WRITE
B
BUFFER MEMORY
READ
C
READ DATA DR
#1
#2
#3
#4
TREC
TREC
TREC
TREC
t

FIG. 4

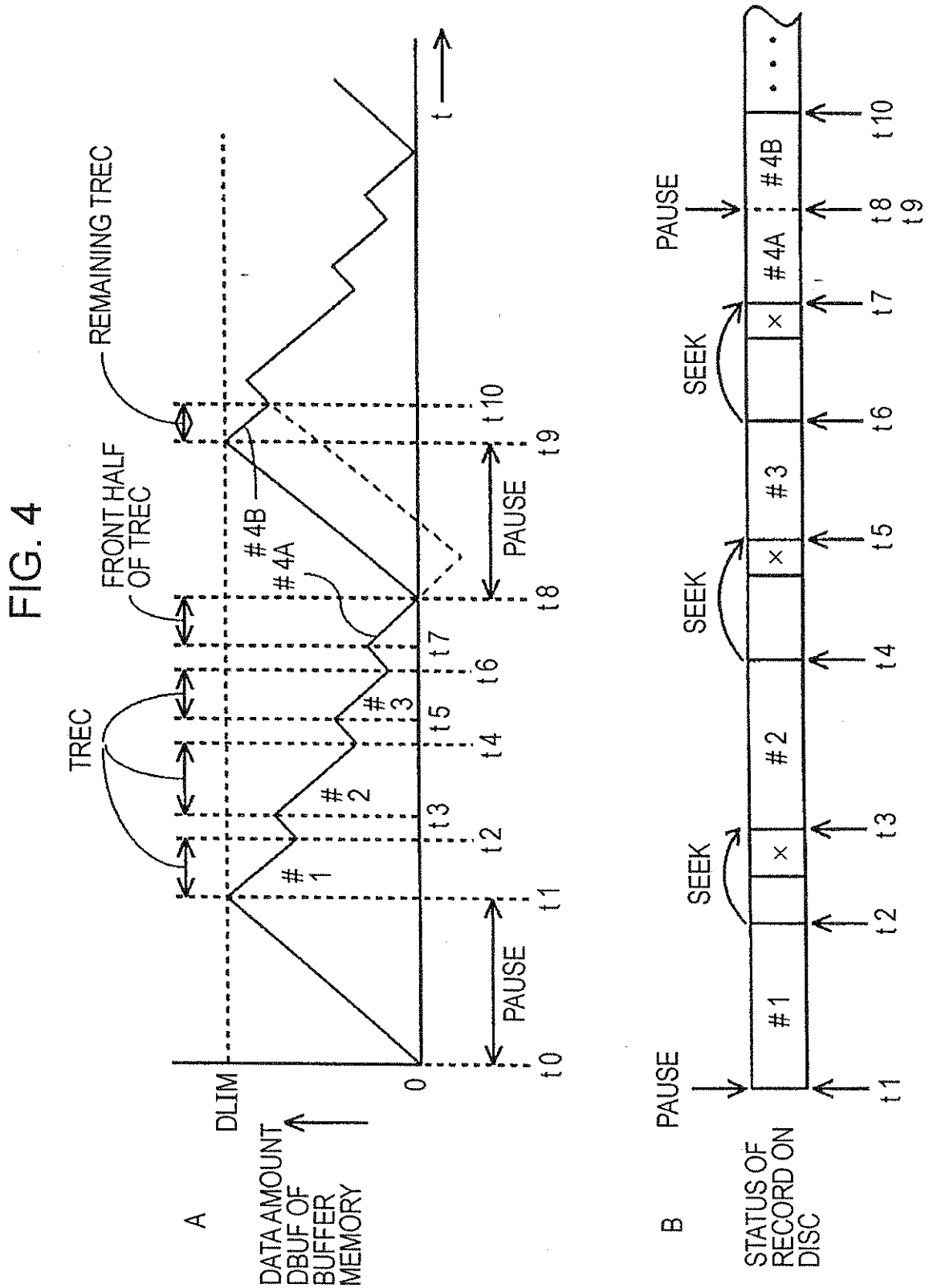
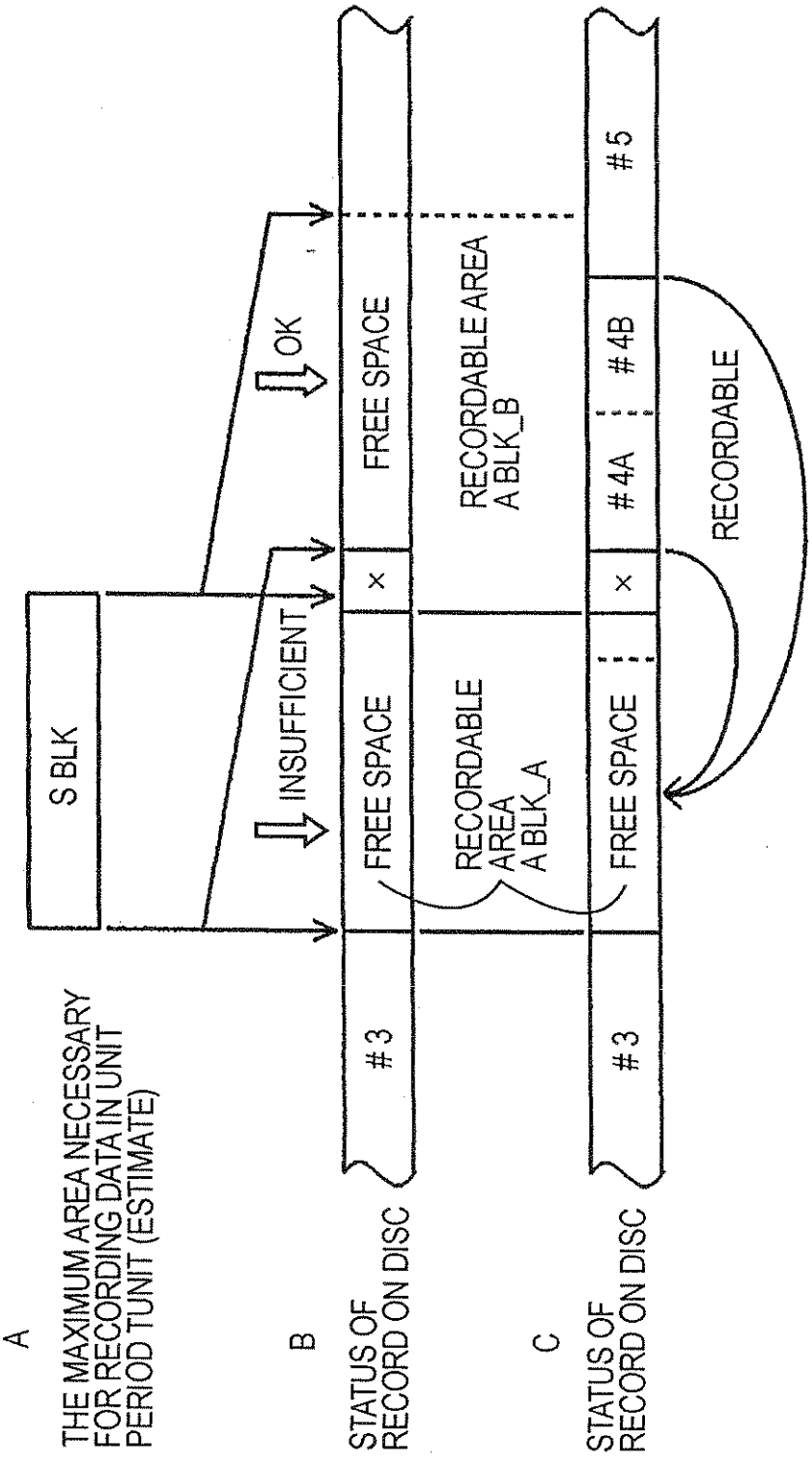

A
DATA AMOUNT DBUF OF BUFFER MEMORY
DLIM
0
t
REMAINING TREC
FRONT HALF OF TREC
TREC
#1
#2
#3
#4A
#4B
PAUSE
PAUSE
t0
t1
t2
t3
t4
t5
t6
t7
t8
t9
t10
B
STATUS OF RECORD ON DISC
PAUSE
SEEK
SEEK
SEEK
#1
#2
#3
#4A
#4B
t1
t2
t3
t4
t5
t6
t7
t8
t9
t10

FIG. 5


A
THE MAXIMUM AREA NECESSARY FOR RECORDING DATA IN UNIT PERIOD TUNIT (ESTIMATE)
S BLK
INSUFFICIENT
OK
B
STATUS OF RECORD ON DISC
#3
FREE SPACE
×
RECORDABLE AREA A BLK_A
RECORDABLE AREA A BLK_B
C
STATUS OF RECORD ON DISC
#3
FREE SPACE
×
#4A
#4B
#5
RECORDABLE