FIG. 1
(RELATED ART)

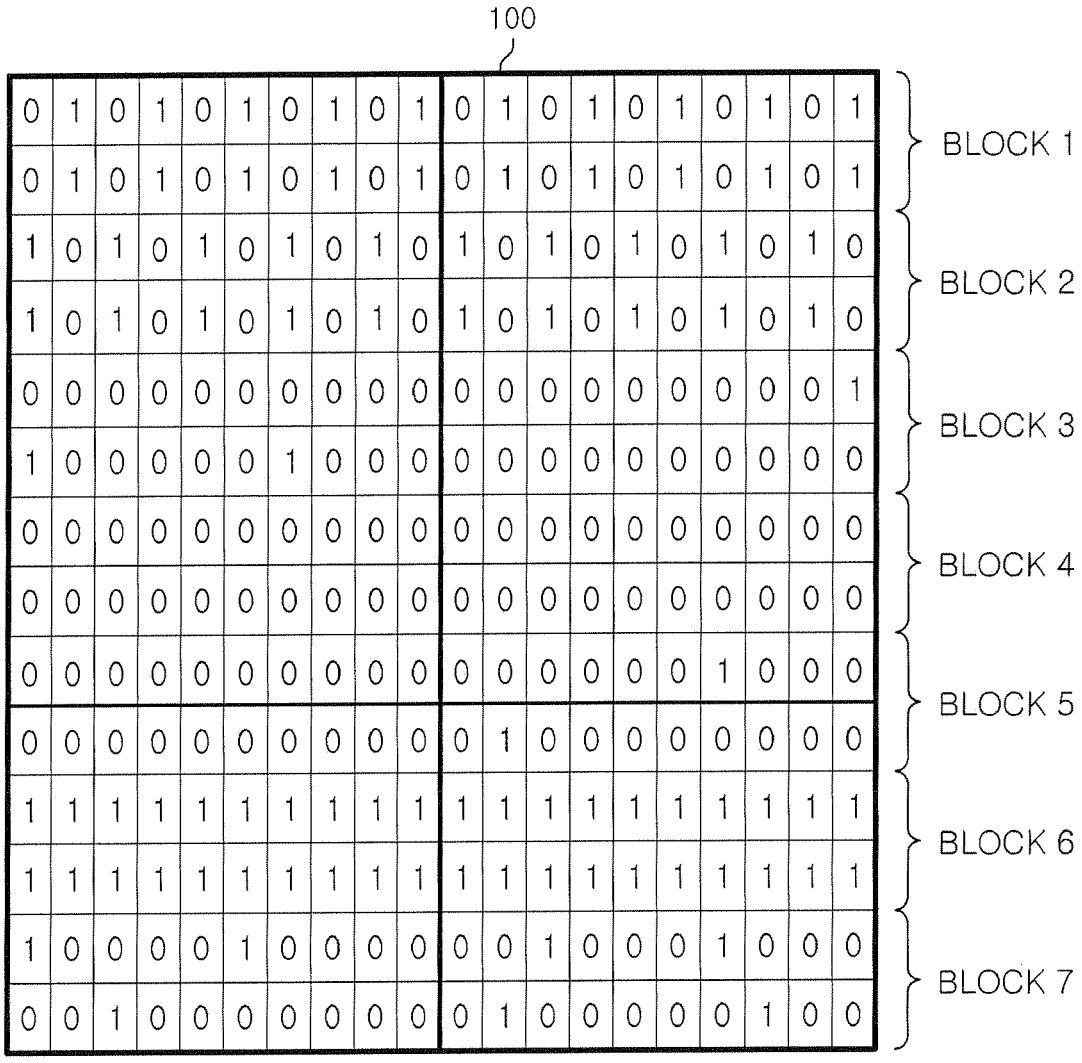


FIG.2

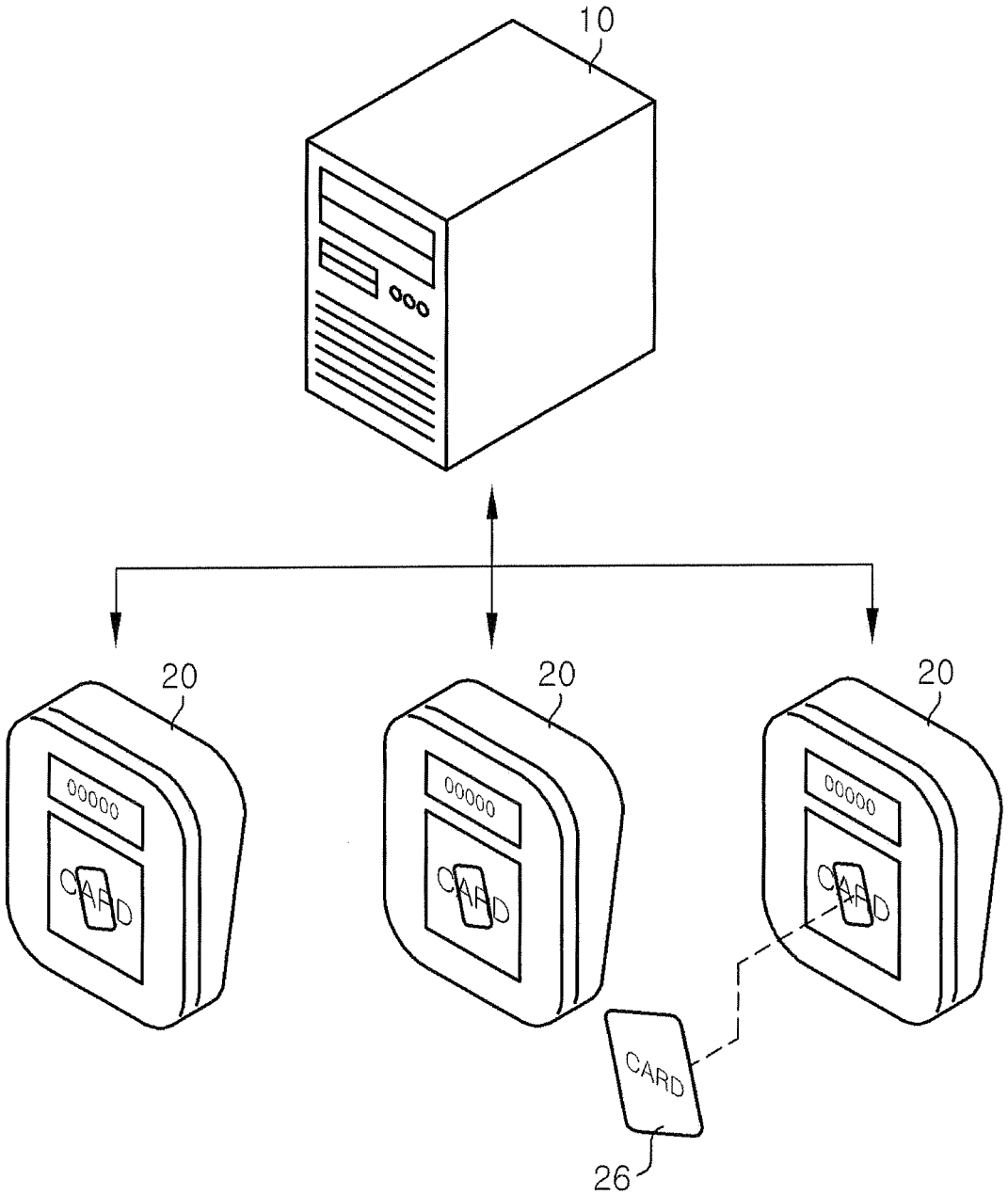


FIG. 3

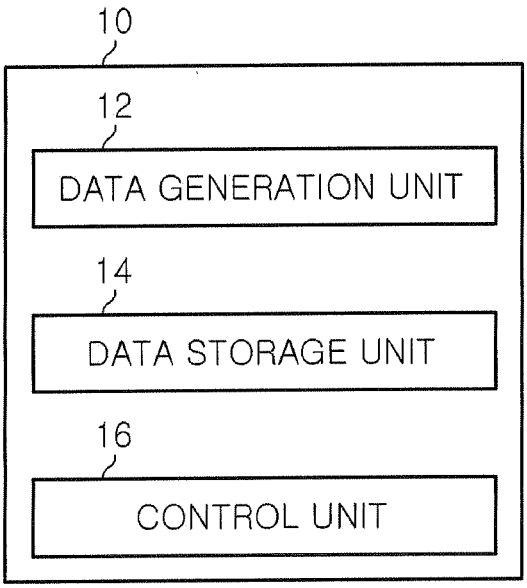

10
12
DATA GENERATION UNIT
14
DATA STORAGE UNIT
16
CONTROL UNIT

FIG. 4

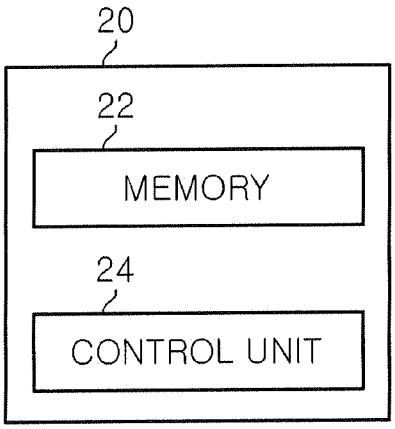

20
22
MEMORY
24
CONTROL UNIT

FIG. 5

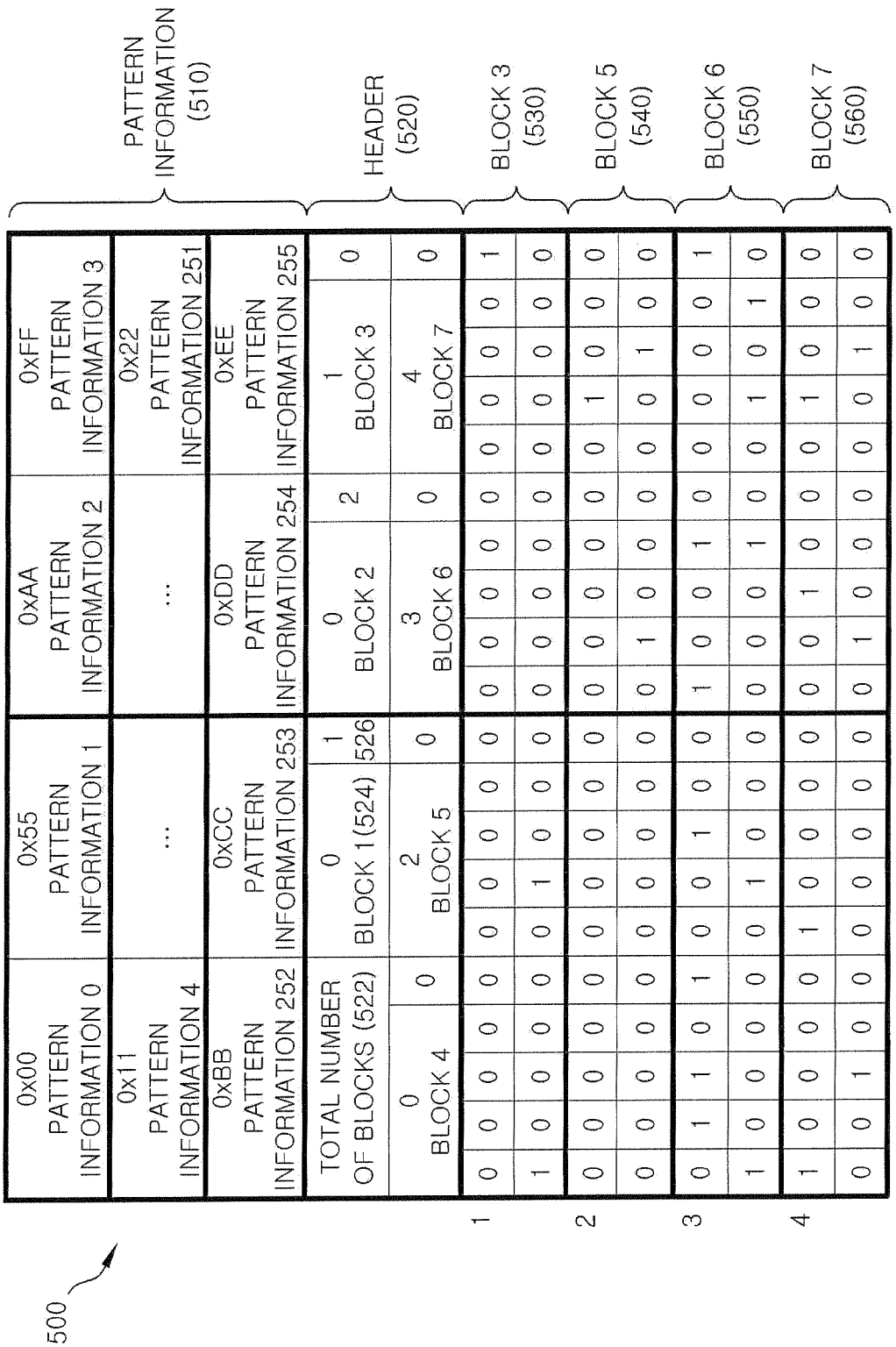

500
PATTERN INFORMATION (510)
HEADER (520)
BLOCK 3 (530)
BLOCK 5 (540)
BLOCK 6 (550)
BLOCK 7 (560)
0x00 PATTERN INFORMATION 0
0x55 PATTERN INFORMATION 1
0xAA PATTERN INFORMATION 2
0xFF PATTERN INFORMATION 3
0x11 PATTERN INFORMATION 4
...
...
0x22 PATTERN INFORMATION 251
0xBB PATTERN INFORMATION 252
0xCC PATTERN INFORMATION 253
0xDD PATTERN INFORMATION 254
0xEE PATTERN INFORMATION 255
TOTAL NUMBER OF BLOCKS (522)
0 BLOCK 1(524)
1 526
0 BLOCK 2
2
1 BLOCK 3
0
0 BLOCK 4
0
2 BLOCK 5
0
3 BLOCK 6
0
4 BLOCK 7
0
1
2
3
4

FIG. 6A

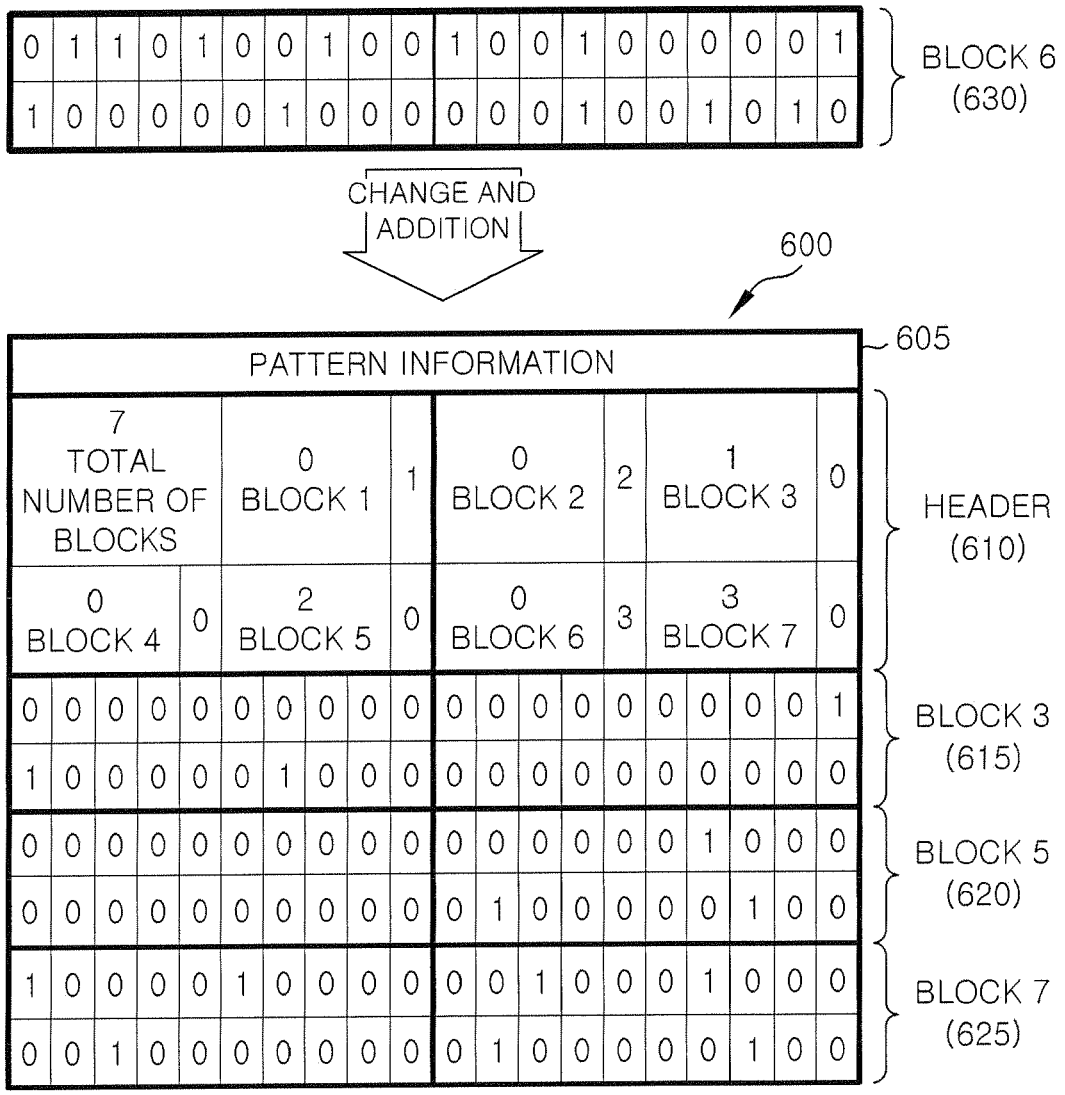

0 1 1 0 1 0 0 1 0 0 1 0 0 1 0 0 0 0 0 1
1 0 0 0 0 0 1 0 0 0 0 0 0 1 0 0 1 0 1 0
BLOCK 6 (630)
CHANGE AND ADDITION
600
605
PATTERN INFORMATION
7 TOTAL NUMBER OF BLOCKS
0 BLOCK 1
1
0 BLOCK 2
2
1 BLOCK 3
0
0 BLOCK 4
0
2 BLOCK 5
0
0 BLOCK 6
3
3 BLOCK 7
0
HEADER (610)
1
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
BLOCK 3 (615)
2
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 1 0 0
BLOCK 5 (620)
3
1 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 1 0 0 0
0 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0 0 1 0 0
BLOCK 7 (625)

FIG. 6B

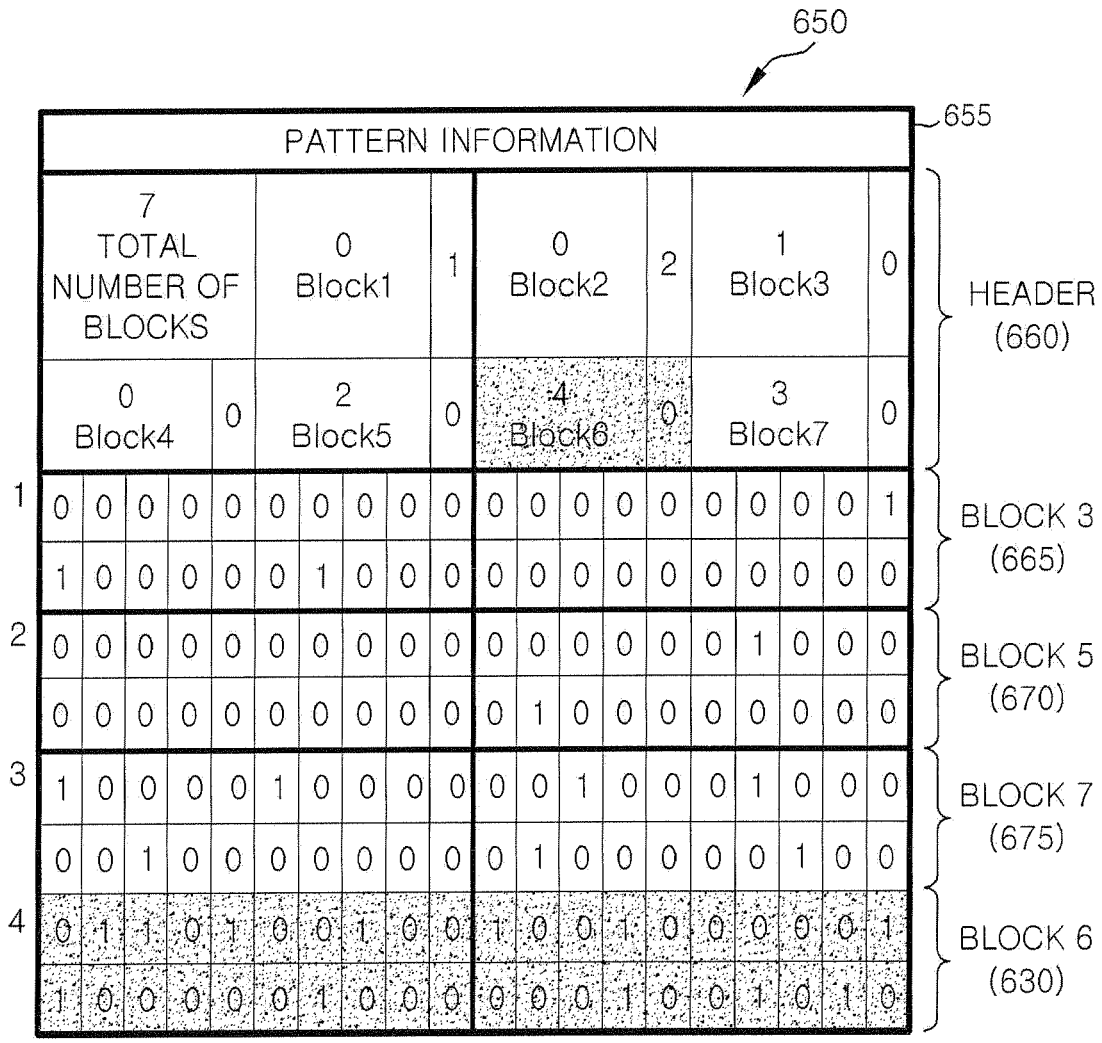

650
655
PATTERN INFORMATION
7 TOTAL NUMBER OF BLOCKS
0 Block1
1
0 Block2
2
1 Block3
0
0 Block4
0
2 Block5
0
4 Block6
0
3 Block7
0
HEADER (660)
1
2
3
4
BLOCK 3 (665)
BLOCK 5 (670)
BLOCK 7 (675)
BLOCK 6 (630)

FIG. 7A

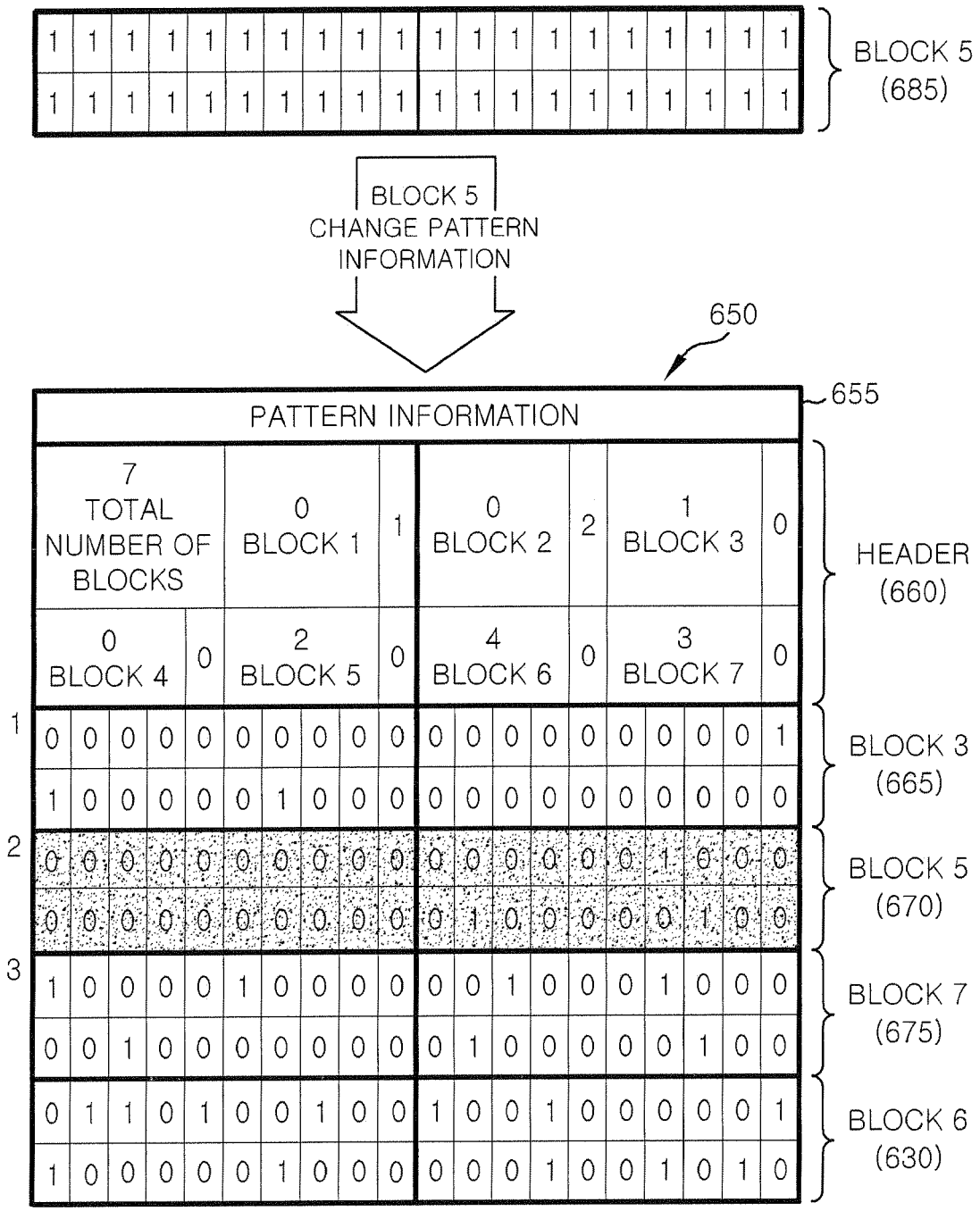

BLOCK 5
(685)
BLOCK 5
CHANGE PATTERN
INFORMATION
650
655
PATTERN INFORMATION
7 TOTAL NUMBER OF BLOCKS
0 BLOCK 1
1
0 BLOCK 2
2
1 BLOCK 3
0
0 BLOCK 4
0
2 BLOCK 5
0
4 BLOCK 6
0
3 BLOCK 7
0
HEADER
(660)
1
BLOCK 3
(665)
2
BLOCK 5
(670)
3
BLOCK 7
(675)
BLOCK 6
(630)

FIG. 7B

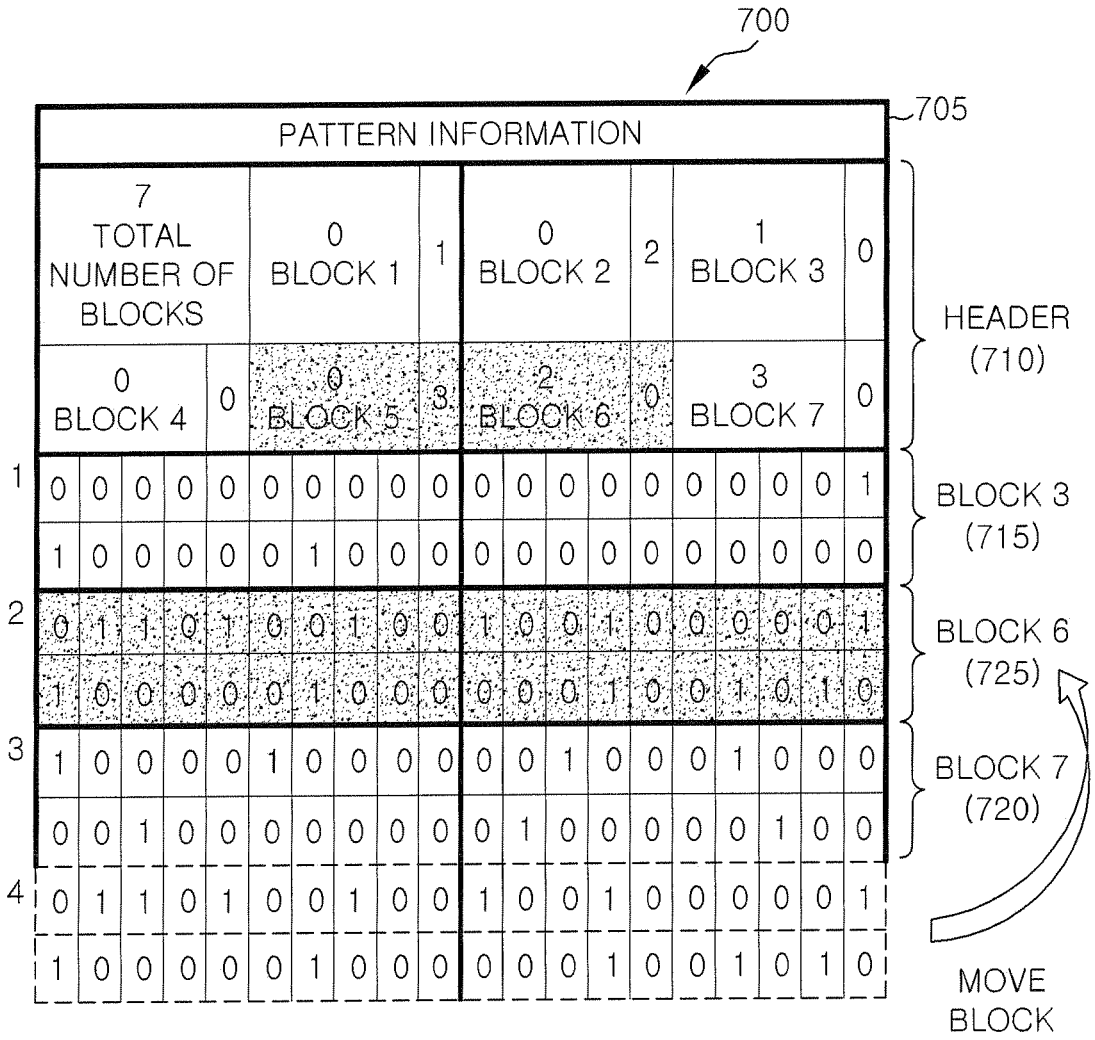

700
705
PATTERN INFORMATION
7 TOTAL NUMBER OF BLOCKS
0 BLOCK 1
1
0 BLOCK 2
2
1 BLOCK 3
0
0 BLOCK 4
0
0 BLOCK 5
3
2 BLOCK 6
0
3 BLOCK 7
0
HEADER (710)
BLOCK 3 (715)
BLOCK 6 (725)
BLOCK 7 (720)
MOVE BLOCK
1
2
3
4

FIG. 8A

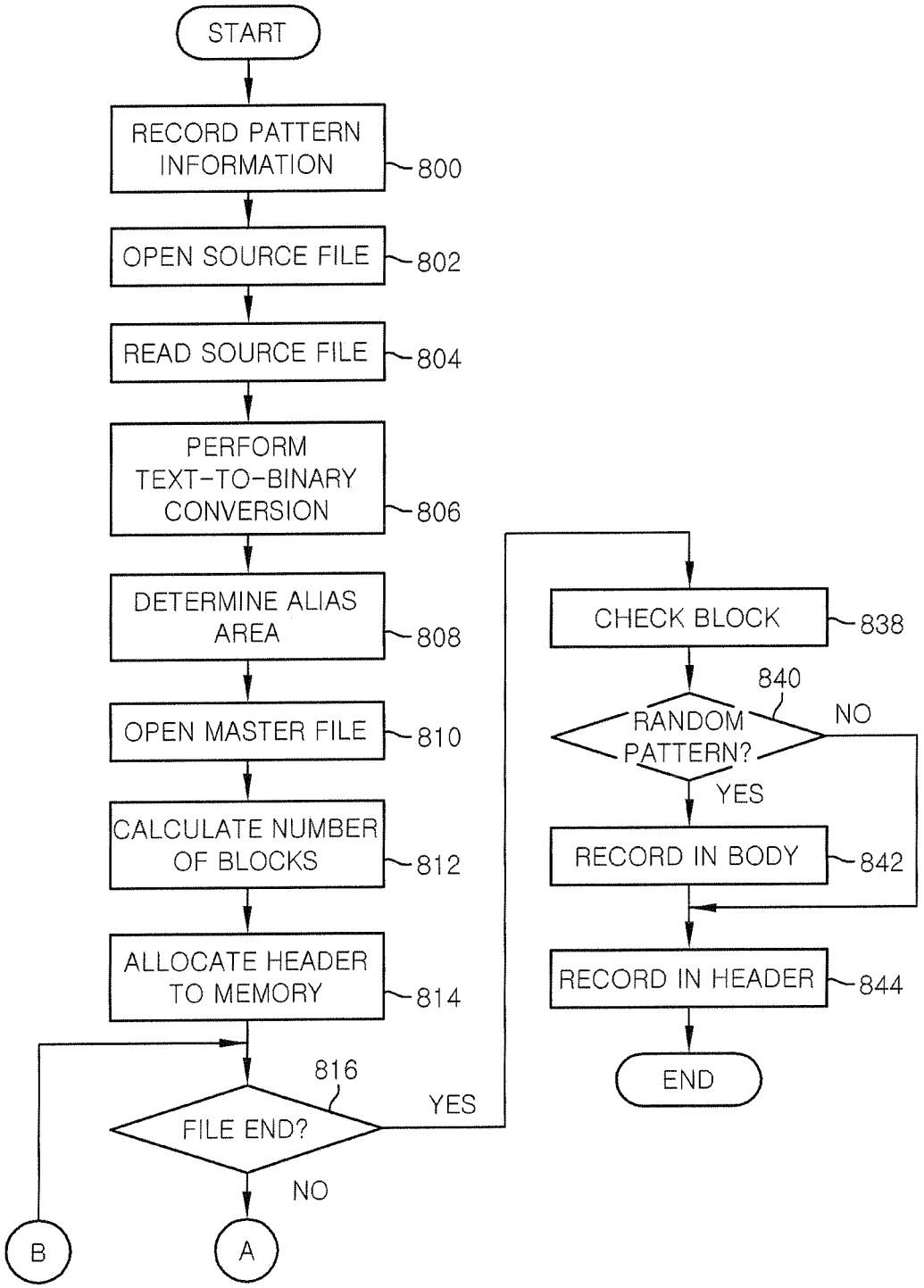

START
RECORD PATTERN INFORMATION
800
OPEN SOURCE FILE
802
READ SOURCE FILE
804
PERFORM TEXT-TO-BINARY CONVERSION
806
DETERMINE ALIAS AREA
808
OPEN MASTER FILE
810
CALCULATE NUMBER OF BLOCKS
812
ALLOCATE HEADER TO MEMORY
814
816
FILE END?
YES
NO
B
A
CHECK BLOCK
838
840
RANDOM PATTERN?
NO
YES
RECORD IN BODY
842
RECORD IN HEADER
844
END

FIG.8B

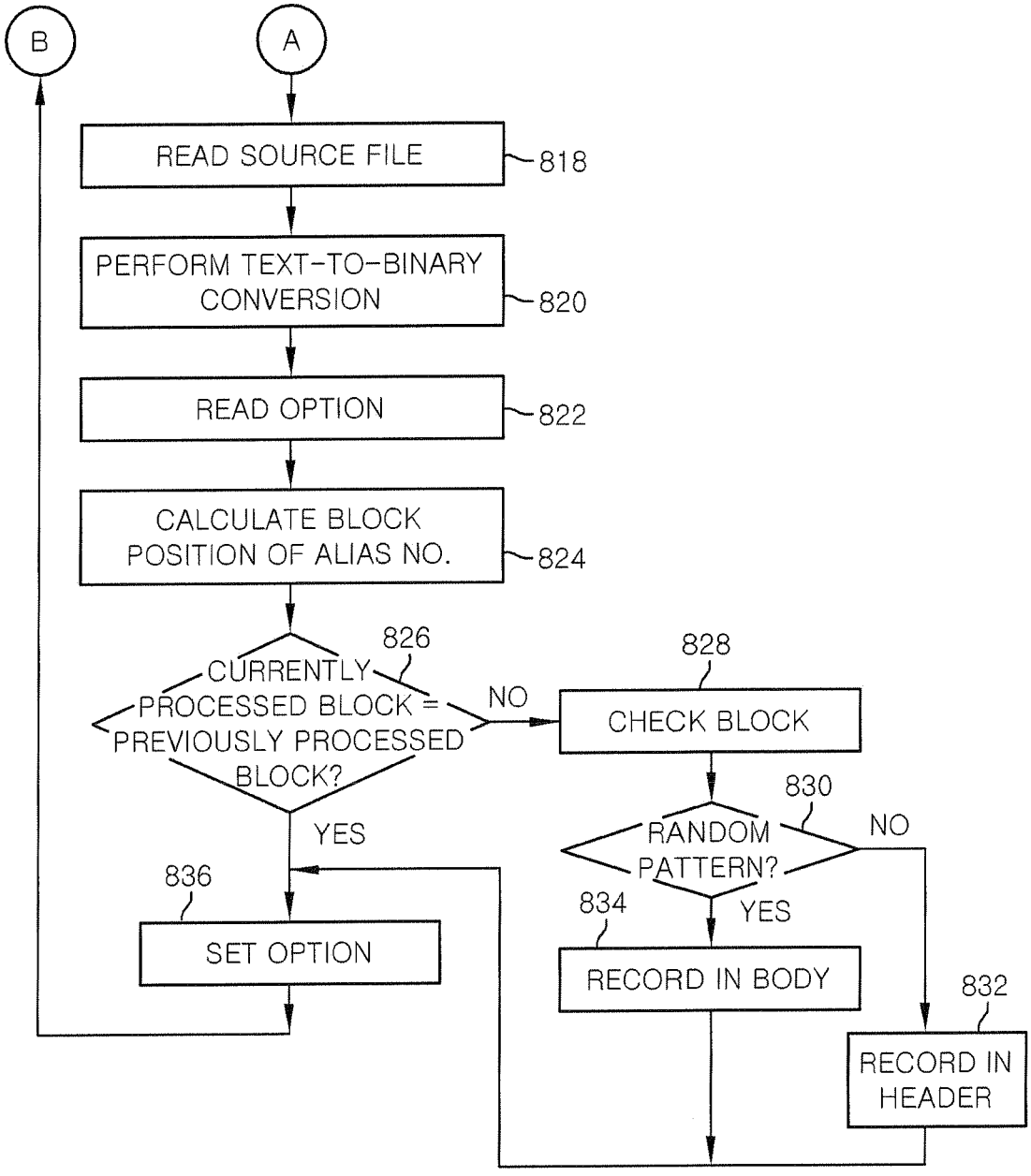

B
A
READ SOURCE FILE
818
PERFORM TEXT-TO-BINARY CONVERSION
820
READ OPTION
822
CALCULATE BLOCK POSITION OF ALIAS NO.
824
826
CURRENTLY PROCESSED BLOCK = PREVIOUSLY PROCESSED BLOCK?
NO
828
CHECK BLOCK
830
RANDOM PATTERN?
NO
YES
834
RECORD IN BODY
YES
836
SET OPTION
832
RECORD IN HEADER

FIG. 9

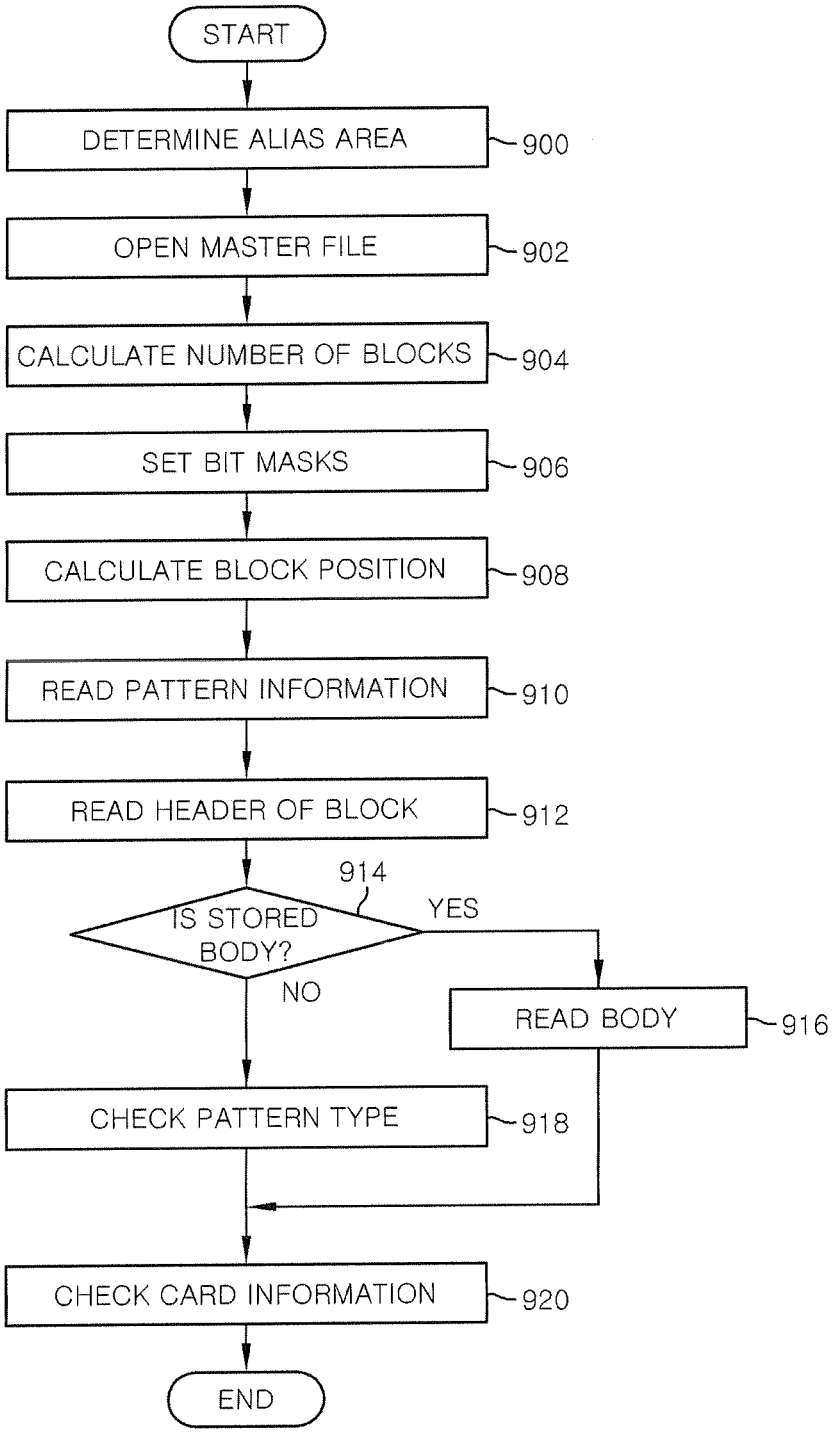

START
DETERMINE ALIAS AREA
900
OPEN MASTER FILE
902
CALCULATE NUMBER OF BLOCKS
904
SET BIT MASKS
906
CALCULATE BLOCK POSITION
908
READ PATTERN INFORMATION
910
READ HEADER OF BLOCK
912
914
IS STORED BODY?
YES
NO
READ BODY
916
CHECK PATTERN TYPE
918
CHECK CARD INFORMATION
920
END

FIG. 10A

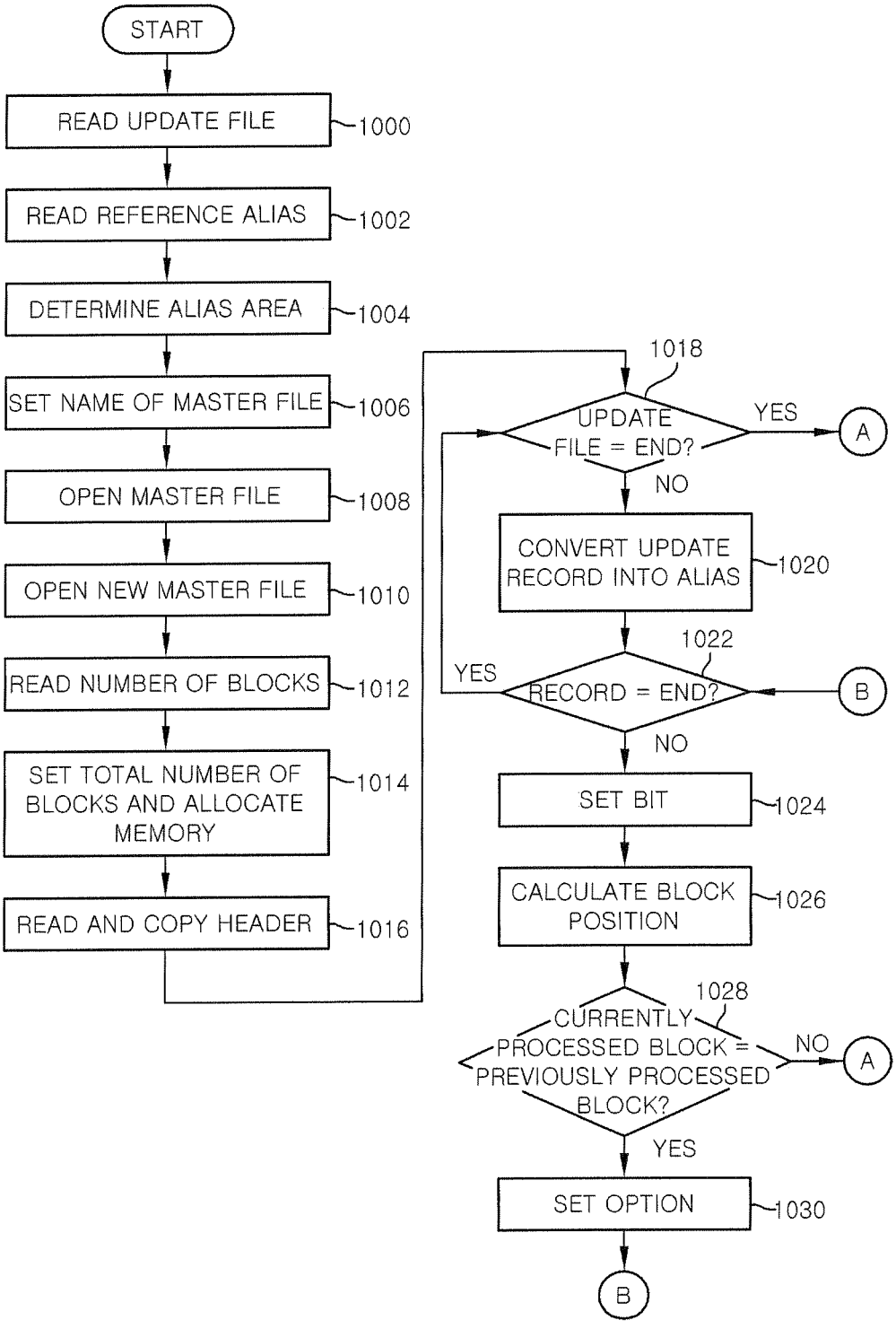
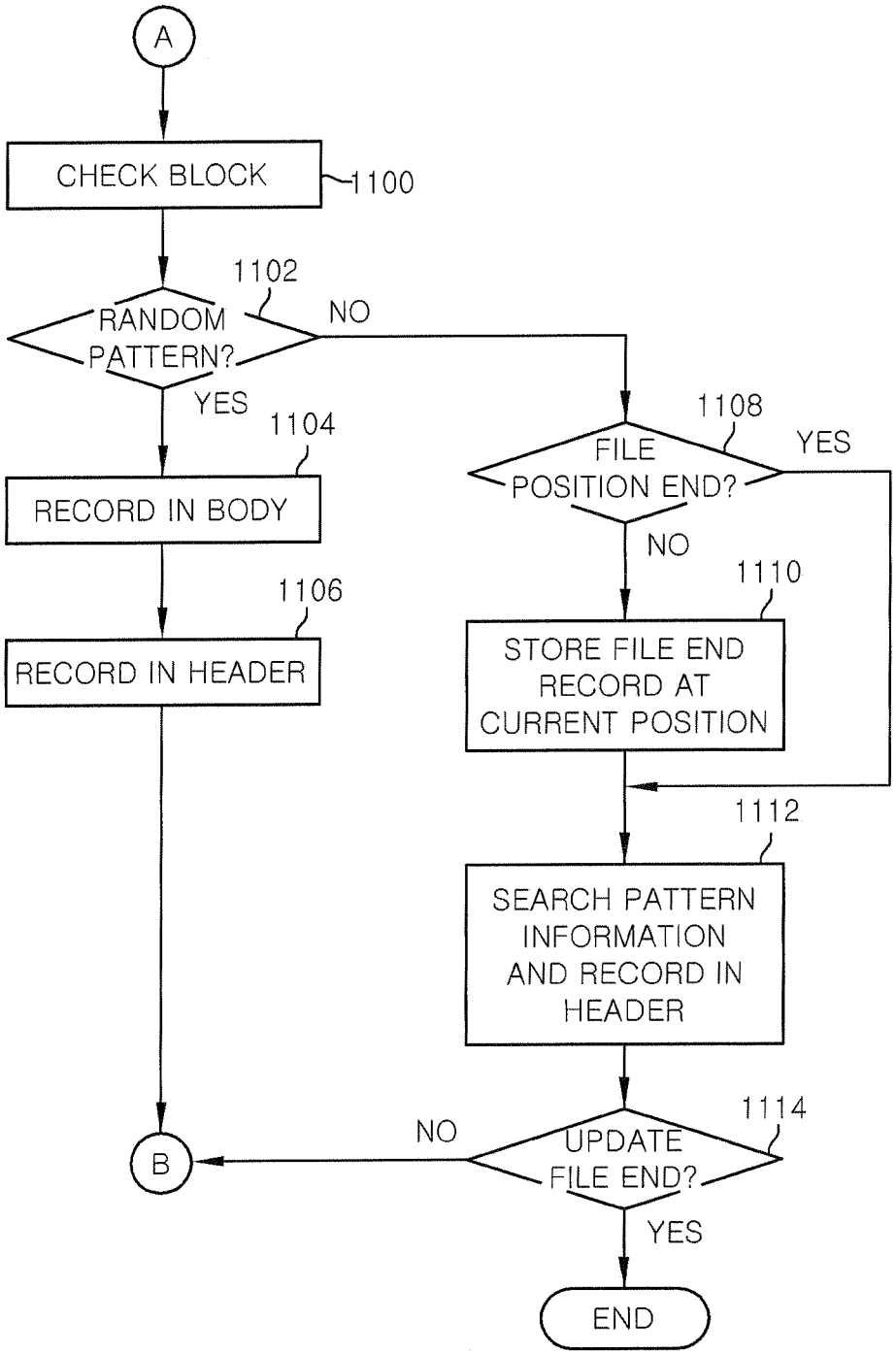

START
READ UPDATE FILE
1000
READ REFERENCE ALIAS
1002
DETERMINE ALIAS AREA
1004
SET NAME OF MASTER FILE
1006
OPEN MASTER FILE
1008
OPEN NEW MASTER FILE
1010
READ NUMBER OF BLOCKS
1012
SET TOTAL NUMBER OF BLOCKS AND ALLOCATE MEMORY
1014
READ AND COPY HEADER
1016
1018
UPDATE FILE = END?
YES
A
NO
CONVERT UPDATE RECORD INTO ALIAS
1020
1022
YES
RECORD = END?
B
NO
SET BIT
1024
CALCULATE BLOCK POSITION
1026
1028
CURRENTLY PROCESSED BLOCK = PREVIOUSLY PROCESSED BLOCK?
NO
A
YES
SET OPTION
1030
B

FIG. 10B


A
CHECK BLOCK
1100
1102
RANDOM PATTERN?
NO
YES
1104
RECORD IN BODY
1106
RECORD IN HEADER
1108
FILE POSITION END?
YES
NO
1110
STORE FILE END RECORD AT CURRENT POSITION
1112
SEARCH PATTERN INFORMATION AND RECORD IN HEADER
1114
UPDATE FILE END?
NO
YES
B
END