Fig.1

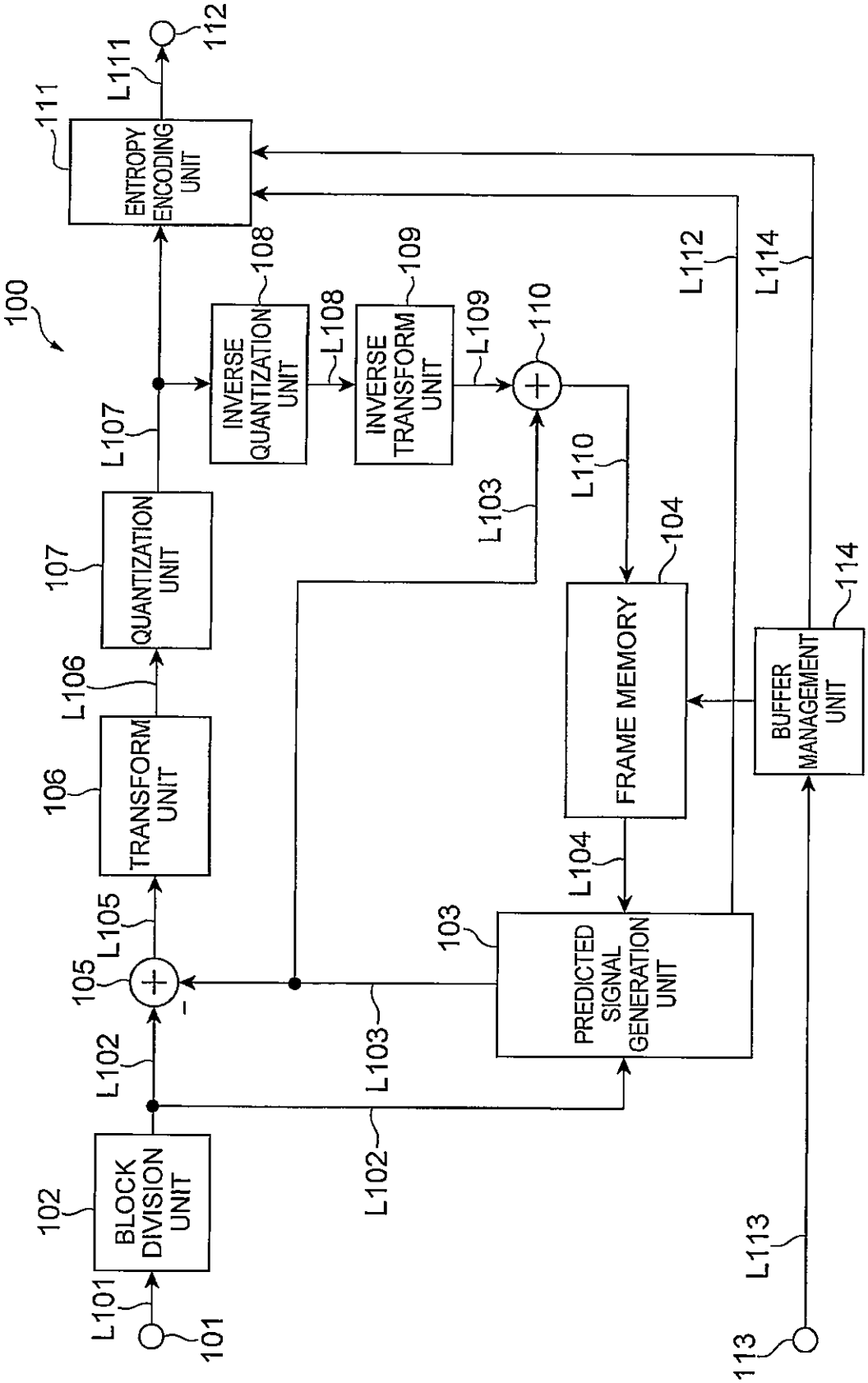

100
101
102
BLOCK DIVISION UNIT
103
PREDICTED SIGNAL GENERATION UNIT
104
FRAME MEMORY
105
106
TRANSFORM UNIT
107
QUANTIZATION UNIT
108
INVERSE QUANTIZATION UNIT
109
INVERSE TRANSFORM UNIT
110
111
ENTROPY ENCODING UNIT
112
113
BUFFER MANAGEMENT UNIT
114
L101
L102
L103
L104
L105
L106
L107
L108
L109
L110
L111
L112
L113
L114

Fig.2

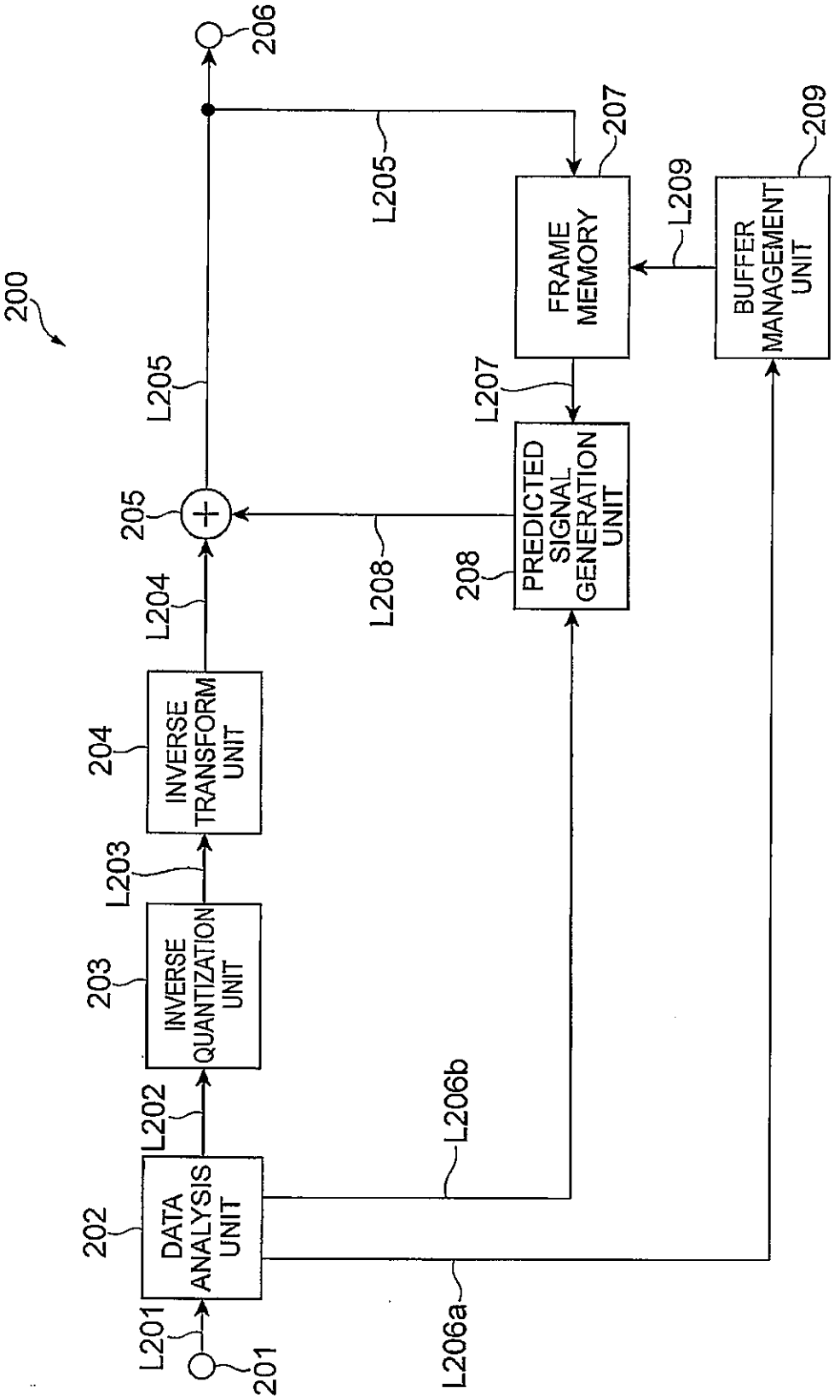

200
201
202
DATA ANALYSIS UNIT
203
INVERSE QUANTIZATION UNIT
204
INVERSE TRANSFORM UNIT
205
206
207
FRAME MEMORY
208
PREDICTED SIGNAL GENERATION UNIT
209
BUFFER MANAGEMENT UNIT
L201
L202
L203
L204
L205
L205
L206a
L206b
L207
L208
L209

Fig.3

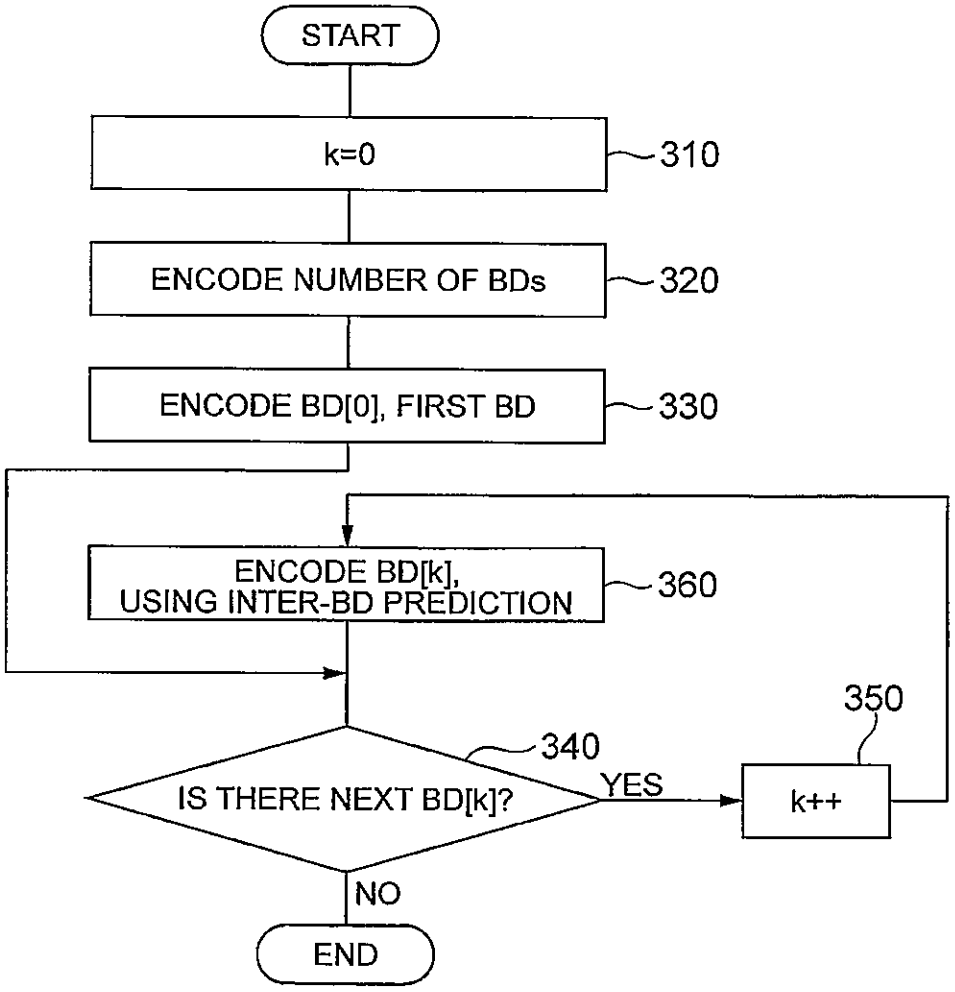

START
k=0
310
ENCODE NUMBER OF BDs
320
ENCODE BD[0], FIRST BD
330
ENCODE BD[k],
USING INTER-BD PREDICTION
360
340
IS THERE NEXT BD[k]?
YES
350
k++
NO
END

Fig.4

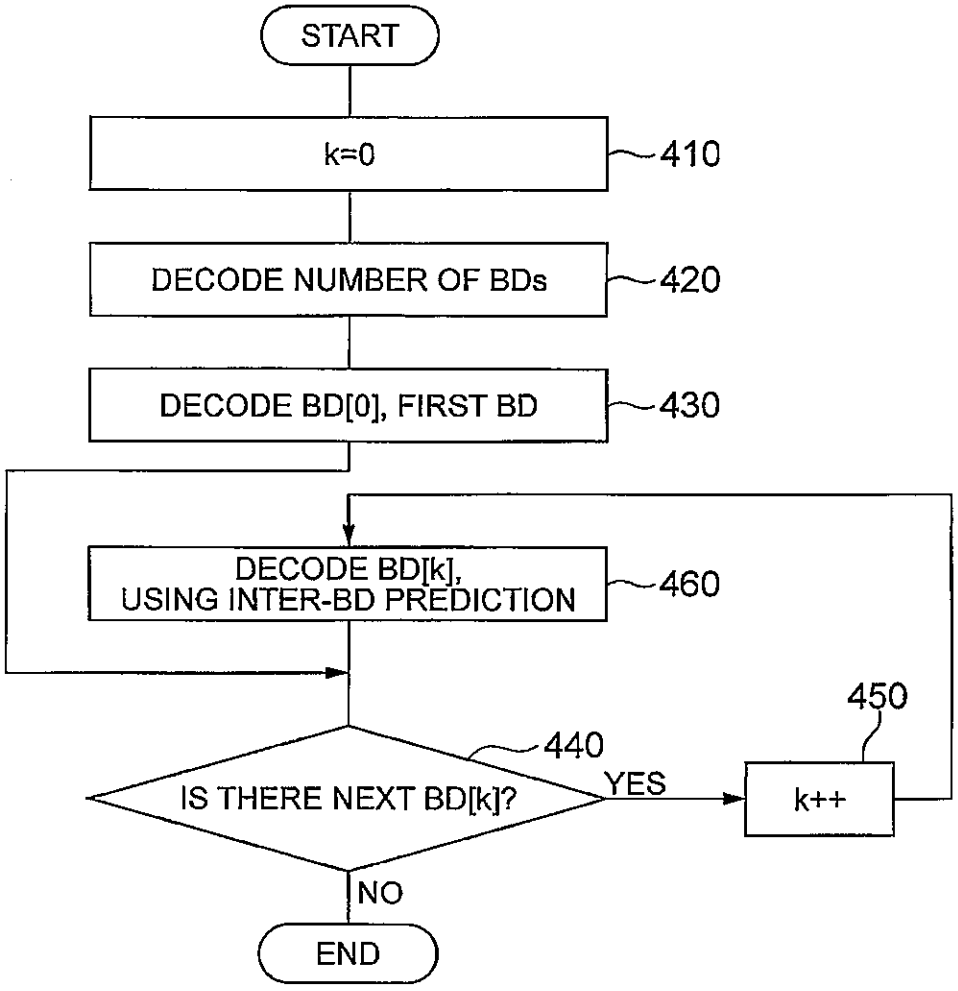
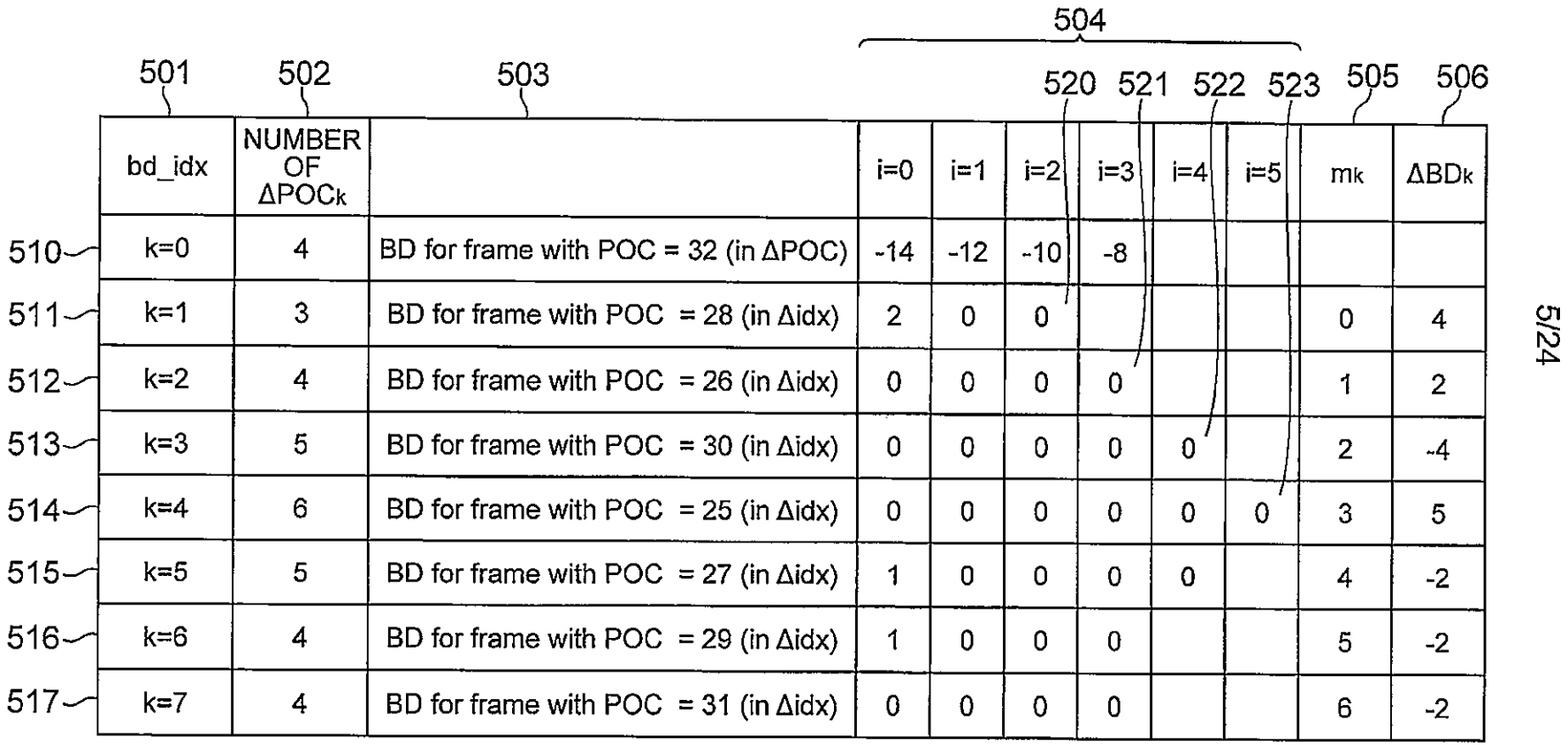

START
k=0
410
DECODE NUMBER OF BDs
420
DECODE BD[0], FIRST BD
430
DECODE BD[k],
USING INTER-BD PREDICTION
460
450
440
IS THERE NEXT BD[k]?
YES
k++
NO
END

Fig.5



	501 bd_idx	502 NUMBER OF ΔPOCk	503	504 i=0	i=1	i=2 (520)	i=3 (521)	i=4 (522)	i=5 (523)	505 mk	506 ΔBDk
510	k=0	4	BD for frame with POC = 32 (in ΔPOC)	-14	-12	-10	-8				
511	k=1	3	BD for frame with POC = 28 (in Δidx)	2	0	0				0	4
512	k=2	4	BD for frame with POC = 26 (in Δidx)	0	0	0	0			1	2
513	k=3	5	BD for frame with POC = 30 (in Δidx)	0	0	0	0	0		2	-4
514	k=4	6	BD for frame with POC = 25 (in Δidx)	0	0	0	0	0	0	3	5
515	k=5	5	BD for frame with POC = 27 (in Δidx)	1	0	0	0	0		4	-2
516	k=6	4	BD for frame with POC = 29 (in Δidx)	1	0	0	0			5	-2
517	k=7	4	BD for frame with POC = 31 (in Δidx)	0	0	0	0			6	-2

Fig.6

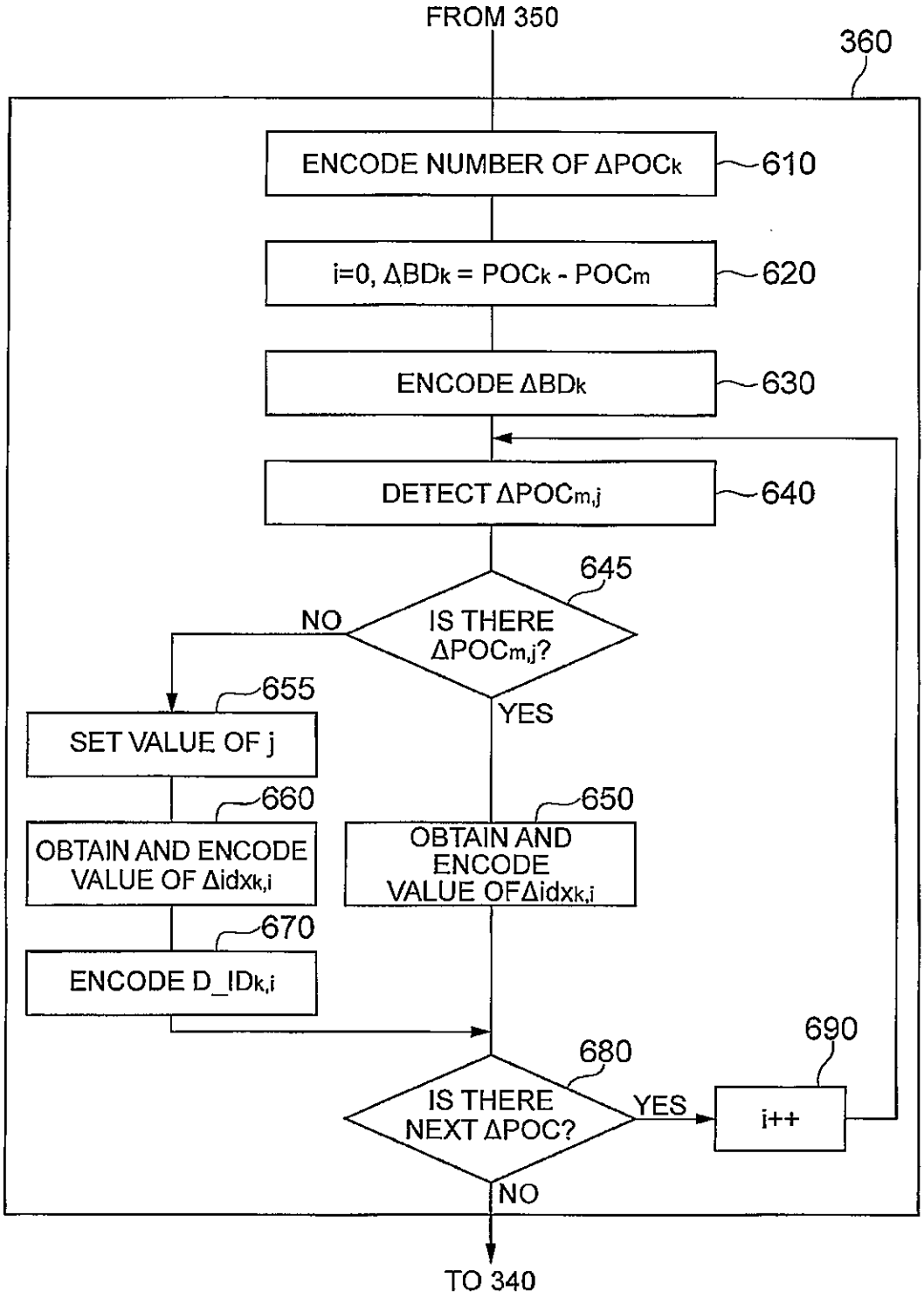

FROM 350
360
ENCODE NUMBER OF ΔPOCk
610
i=0, ΔBDk = POCk - POCm
620
ENCODE ΔBDk
630
DETECT ΔPOCm,j
640
645
IS THERE ΔPOCm,j?
NO
YES
655
SET VALUE OF j
660
OBTAIN AND ENCODE VALUE OF Δidxk,i
650
OBTAIN AND ENCODE VALUE OFΔidxk,i
670
ENCODE D_IDk,i
680
IS THERE NEXT ΔPOC?
YES
690
i++
NO
TO 340

Fig.7

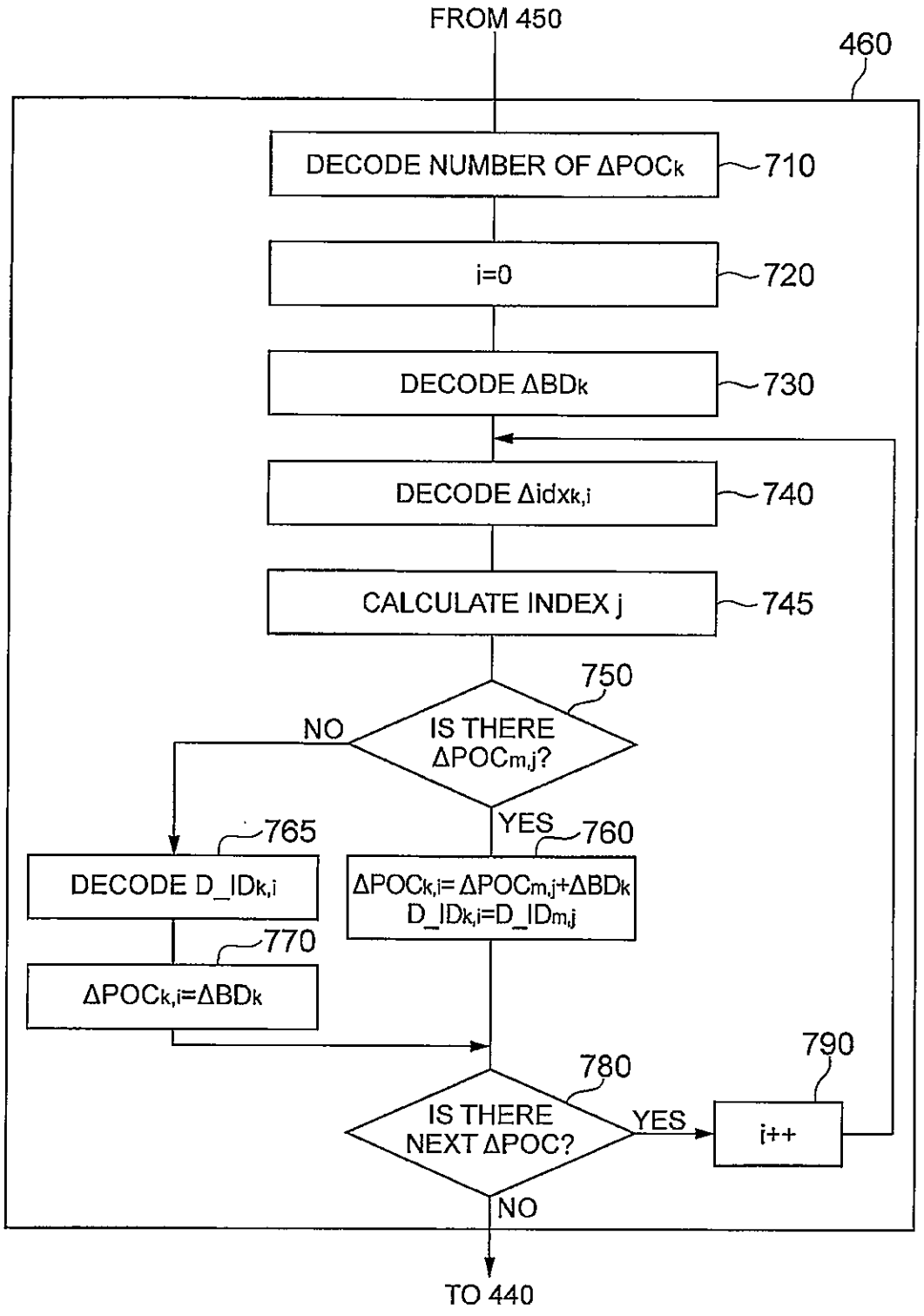

FROM 450
460
DECODE NUMBER OF ΔPOCk
710
i=0
720
DECODE ΔBDk
730
DECODE Δidxk,i
740
CALCULATE INDEX j
745
750
IS THERE ΔPOCm,j?
NO
YES
760
ΔPOCk,i= ΔPOCm,j+ΔBDk
D_IDk,i=D_IDm,j
765
DECODE D_IDk,i
770
ΔPOCk,i=ΔBDk
780
IS THERE NEXT ΔPOC?
YES
790
i++
NO
TO 440

Fig.8

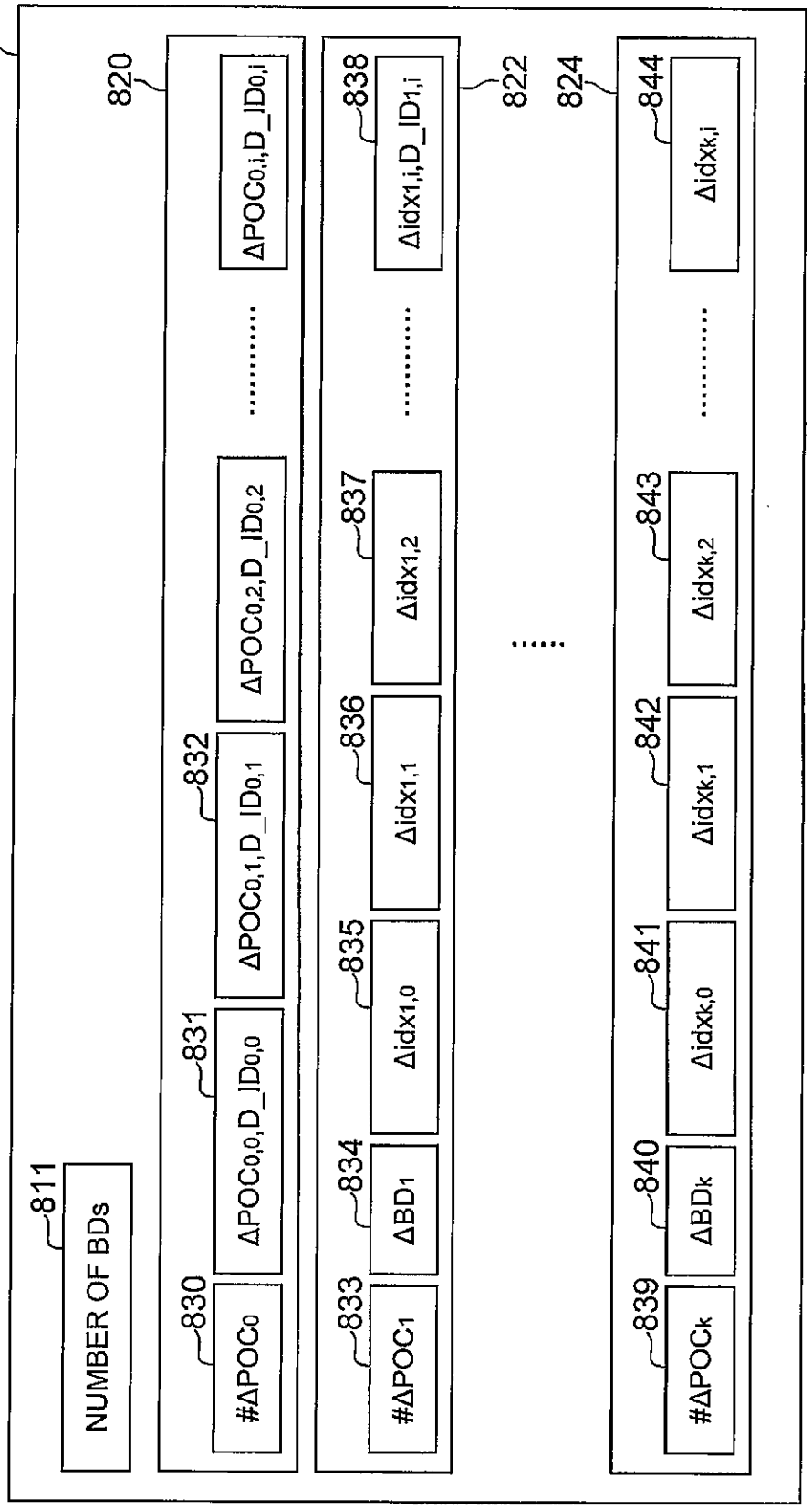

810
811
NUMBER OF BDs
820
830
#ΔPOC0
831
ΔPOC0,0,D_ID0,0
832
ΔPOC0,1,D_ID0,1
ΔPOC0,2,D_ID0,2
ΔPOC0,i,D_ID0,i
822
833
#ΔPOC1
834
ΔBD1
835
Δidx1,0
836
Δidx1,1
837
Δidx1,2
838
Δidx1,i,D_ID1,i
824
839
#ΔPOCk
840
ΔBDk
841
Δidxk,0
842
Δidxk,1
843
Δidxk,2
844
Δidxk,i

Fig.9

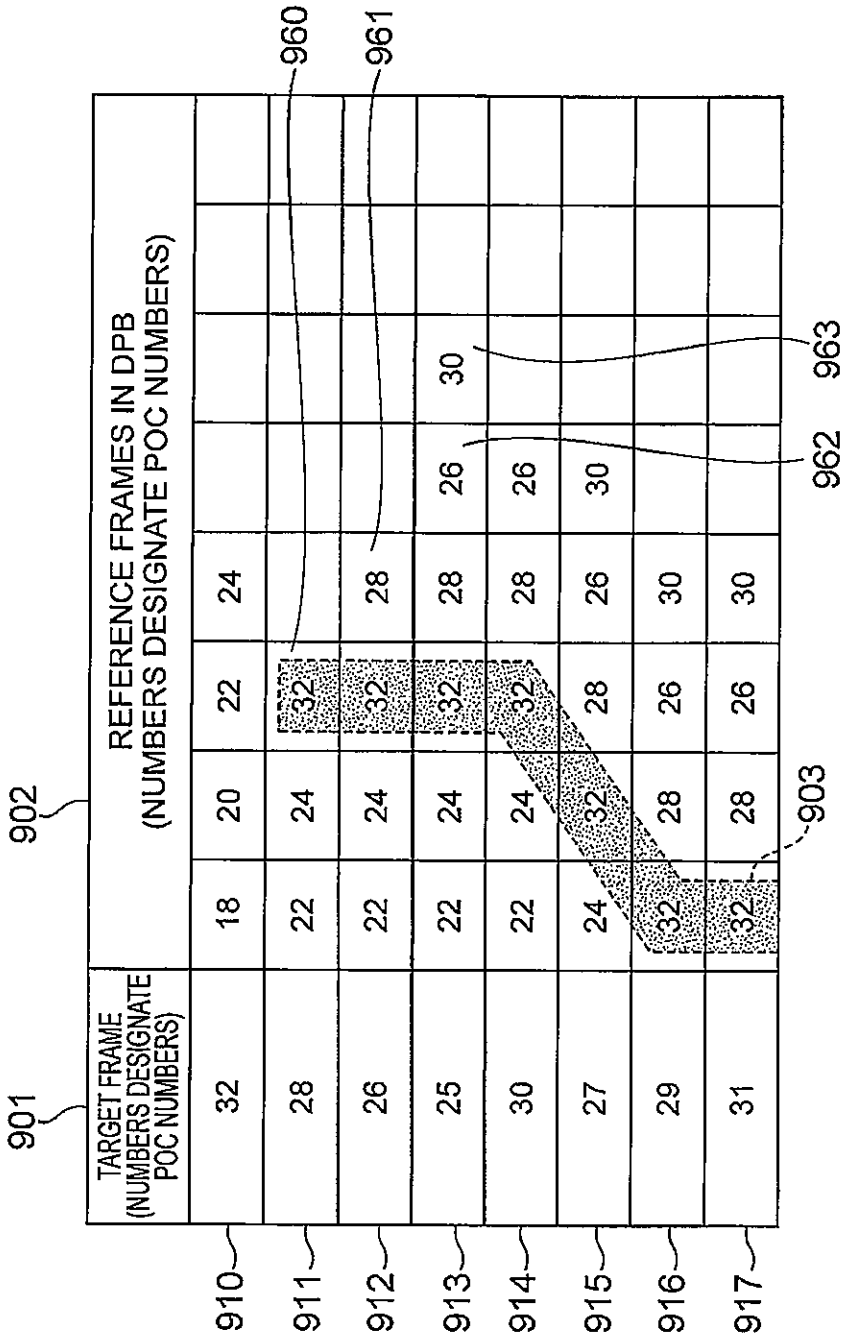

901
902
TARGET FRAME (NUMBERS DESIGNATE POC NUMBERS)
REFERENCE FRAMES IN DPB (NUMBERS DESIGNATE POC NUMBERS)
960
961
962
963
903
910
911
912
913
914
915
916
917
32 18 20 22 24
28 22 24 32
26 22 24 32 28
25 22 24 32 28 26 30
30 22 24 32 28 26 26
27 24 32 28 26 30
29 32 28 26 30
31 32 28 26 30

Fig.10

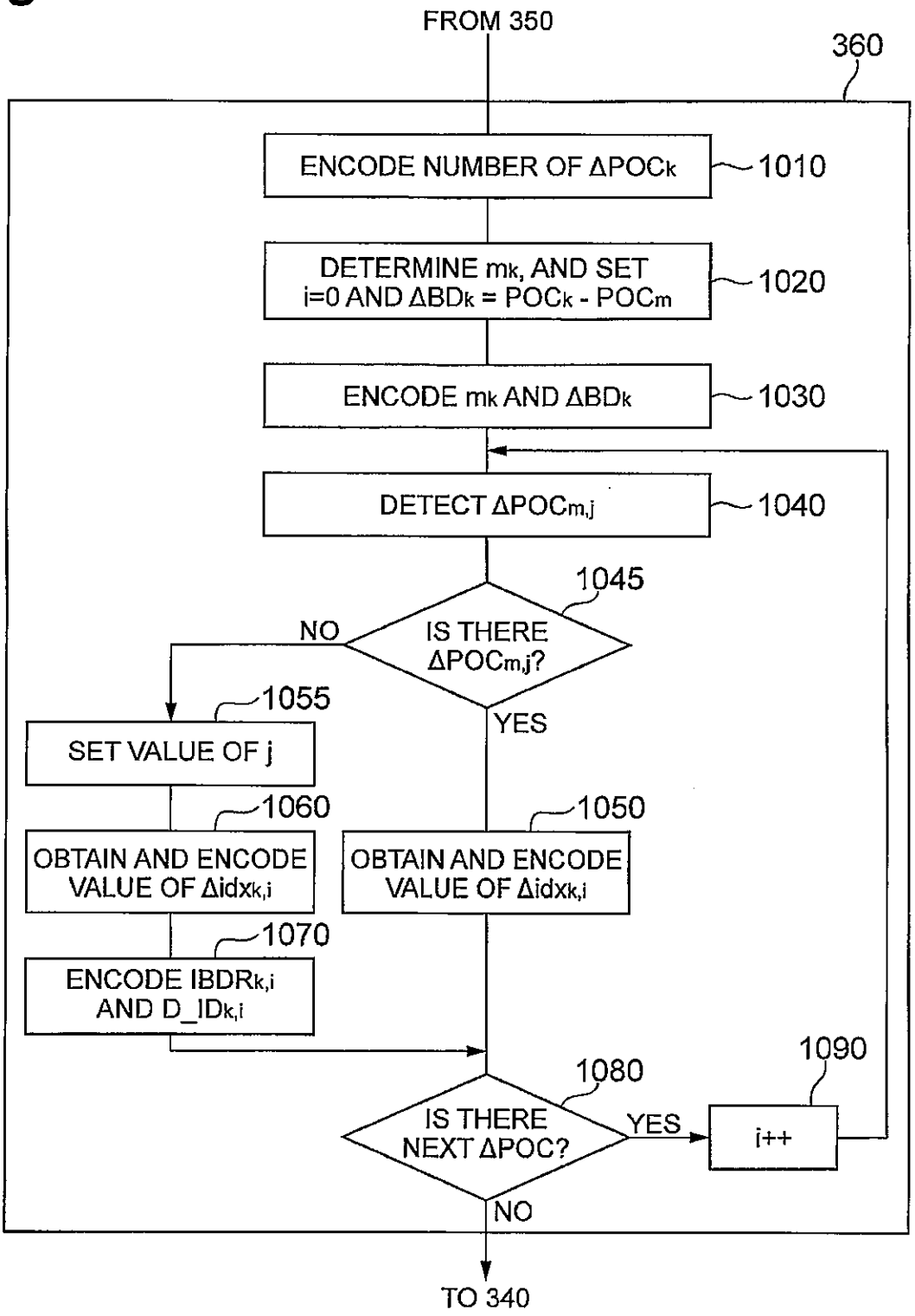

FROM 350
360
ENCODE NUMBER OF ΔPOCk
1010
DETERMINE mk, AND SET i=0 AND ΔBDk = POCk - POCm
1020
ENCODE mk AND ΔBDk
1030
DETECT ΔPOCm,j
1040
1045
IS THERE ΔPOCm,j?
NO
YES
1055
SET VALUE OF j
1060
OBTAIN AND ENCODE VALUE OF Δidxk,i
1050
OBTAIN AND ENCODE VALUE OF Δidxk,i
1070
ENCODE IBDRk,i AND D_IDk,i
1080
IS THERE NEXT ΔPOC?
YES
1090
i++
NO
TO 340

Fig.11

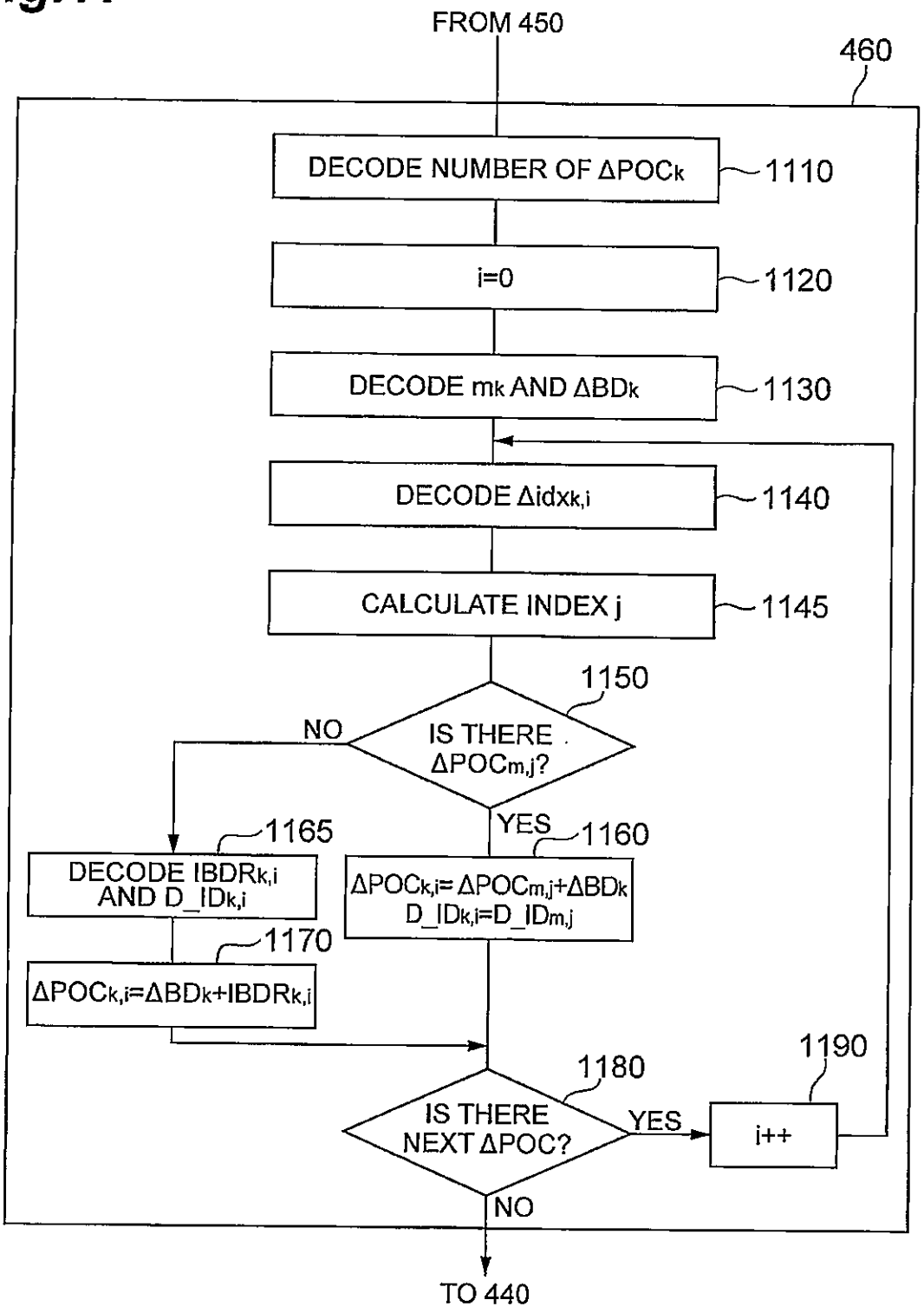

FROM 450
460
DECODE NUMBER OF ΔPOCk
1110
i=0
1120
DECODE mk AND ΔBDk
1130
DECODE Δidxk,i
1140
CALCULATE INDEX j
1145
1150
IS THERE ΔPOCm,j?
NO
YES
1165
DECODE IBDRk,i AND D_IDk,i
1160
ΔPOCk,i= ΔPOCm,j+ΔBDk
D_IDk,i=D_IDm,j
1170
ΔPOCk,i=ΔBDk+IBDRk,i
1180
IS THERE NEXT ΔPOC?
YES
1190
i++
NO
TO 440

Fig.12

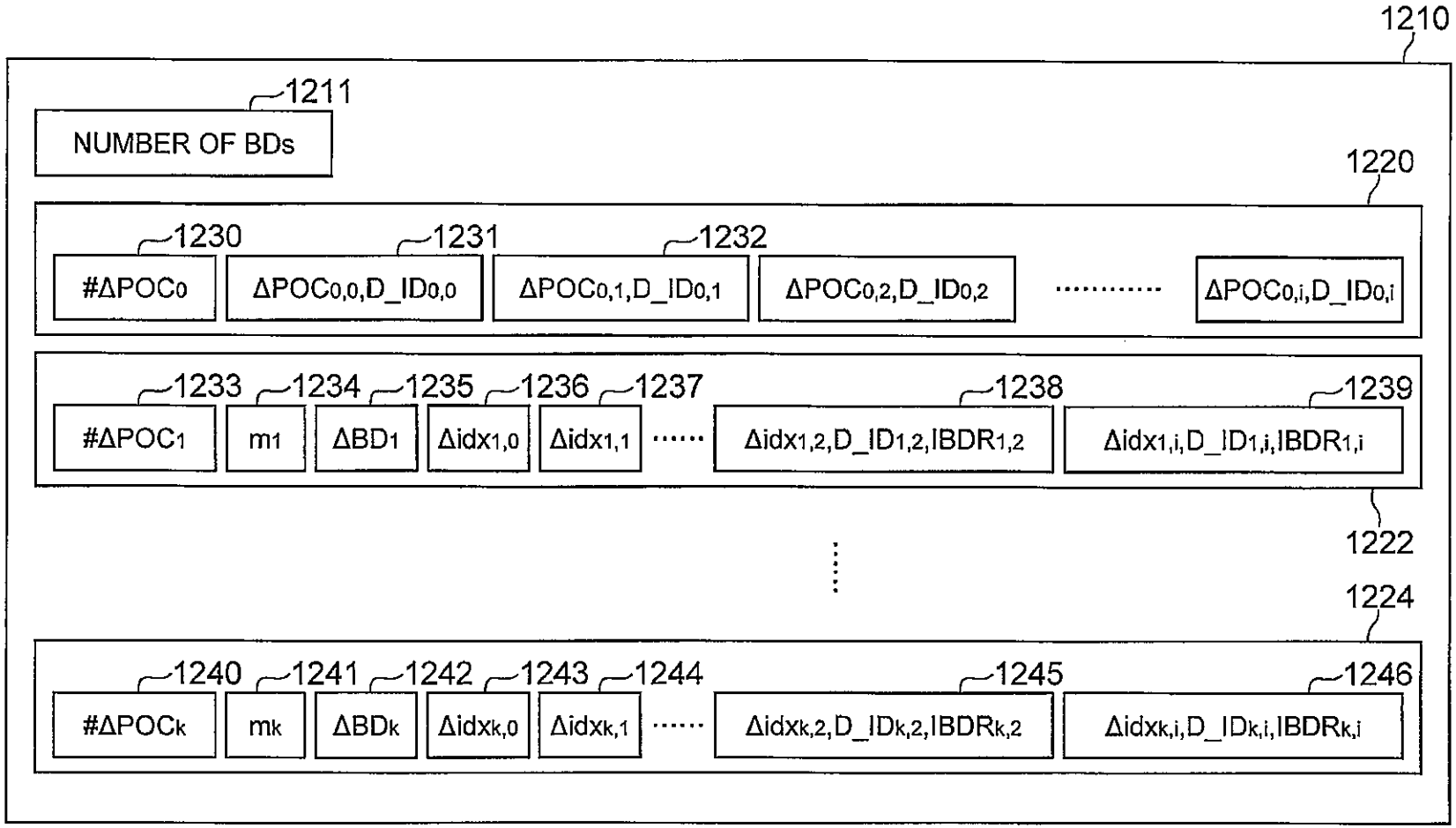

1210
1211
NUMBER OF BDs
1220
1230
1231
1232
#ΔPOC0
ΔPOC0,0,D_ID0,0
ΔPOC0,1,D_ID0,1
ΔPOC0,2,D_ID0,2
ΔPOC0,i,D_ID0,i
1233
1234
1235
1236
1237
1238
1239
#ΔPOC1
m1
ΔBD1
Δidx1,0
Δidx1,1
Δidx1,2,D_ID1,2,IBDR1,2
Δidx1,i,D_ID1,i,IBDR1,i
1222
1224
1240
1241
1242
1243
1244
1245
1246
#ΔPOCk
mk
ΔBDk
Δidxk,0
Δidxk,1
Δidxk,2,D_IDk,2,IBDRk,2
Δidxk,i,D_IDk,i,IBDRk,i

Fig.13

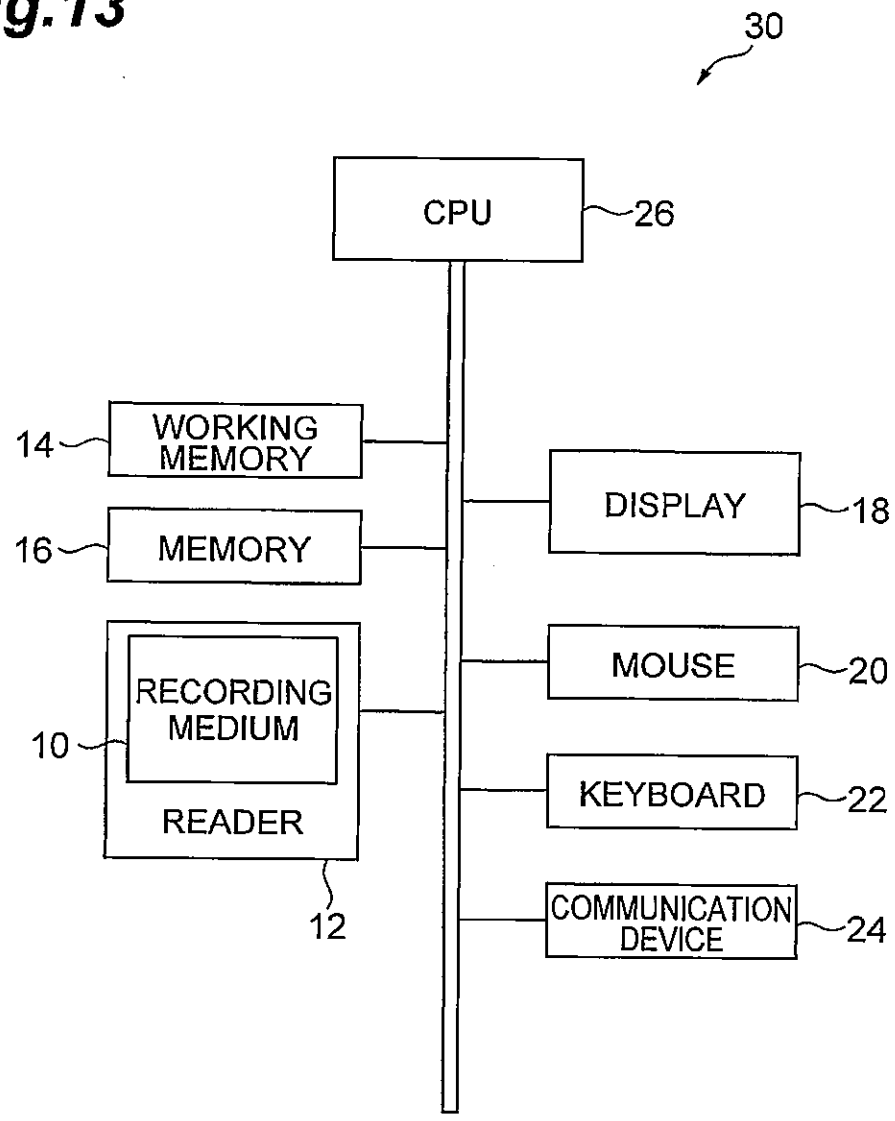

30
CPU
26
14
WORKING MEMORY
16
MEMORY
10
RECORDING MEDIUM
READER
12
DISPLAY
18
MOUSE
20
KEYBOARD
22
COMMUNICATION DEVICE
24

Fig.14

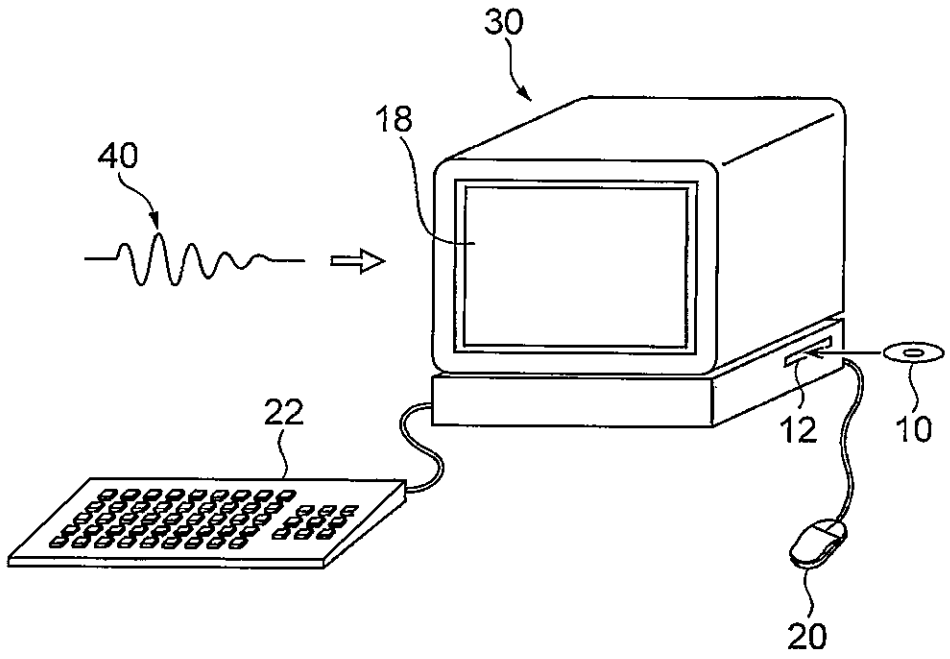


Fig.15

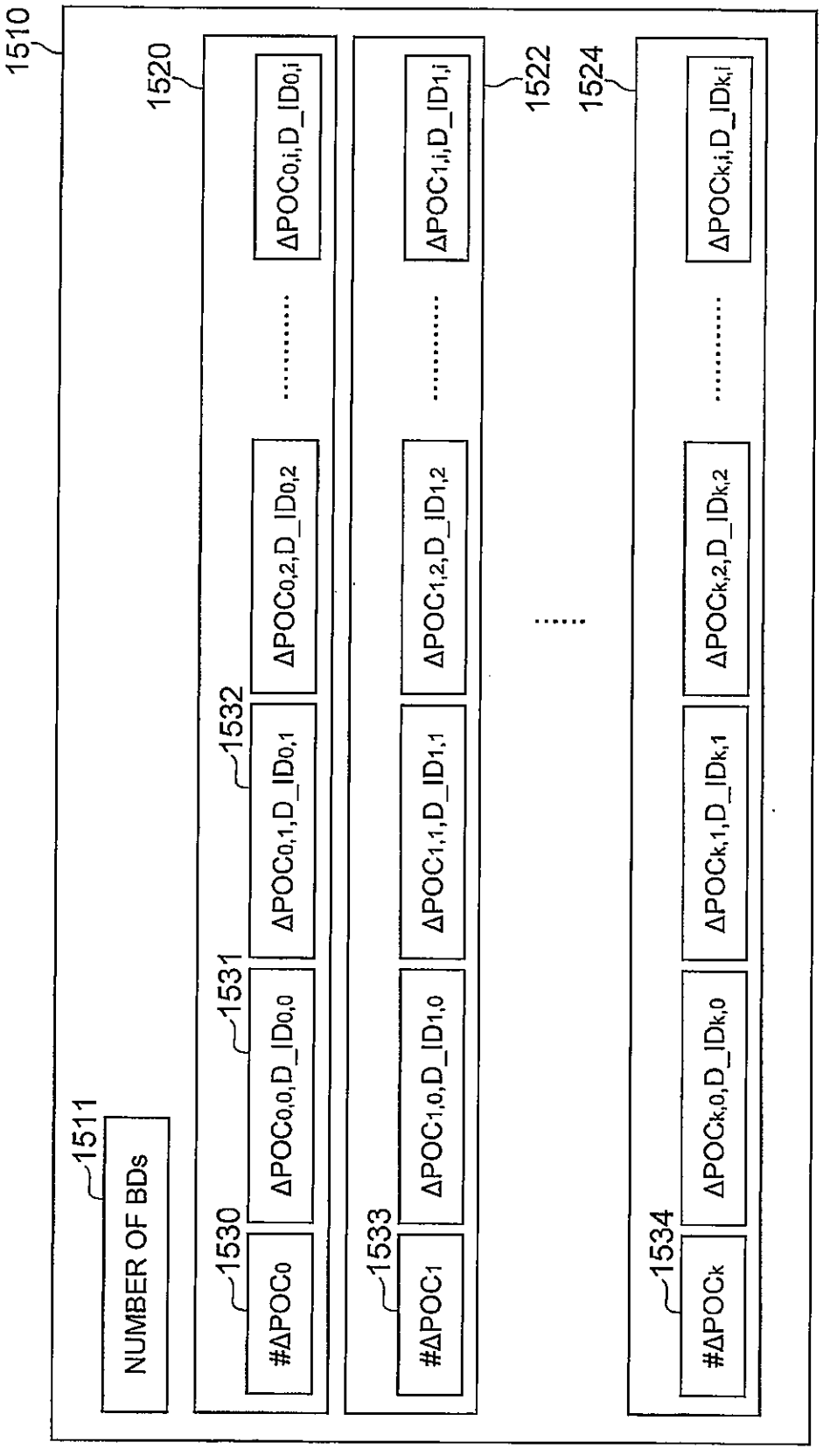

1510
1511
NUMBER OF BDs
1520
1530
#ΔPOC0
ΔPOC0,0,D_ID0,0
1531
ΔPOC0,1,D_ID0,1
1532
ΔPOC0,2,D_ID0,2
.....
ΔPOC0,i,D_ID0,i
1533
#ΔPOC1
ΔPOC1,0,D_ID1,0
ΔPOC1,1,D_ID1,1
ΔPOC1,2,D_ID1,2
.....
ΔPOC1,i,D_ID1,i
1522
1524
1534
#ΔPOCk
ΔPOCk,0,D_IDk,0
ΔPOCk,1,D_IDk,1
ΔPOCk,2,D_IDk,2
.....
ΔPOCk,i,D_IDk,i

Fig.16

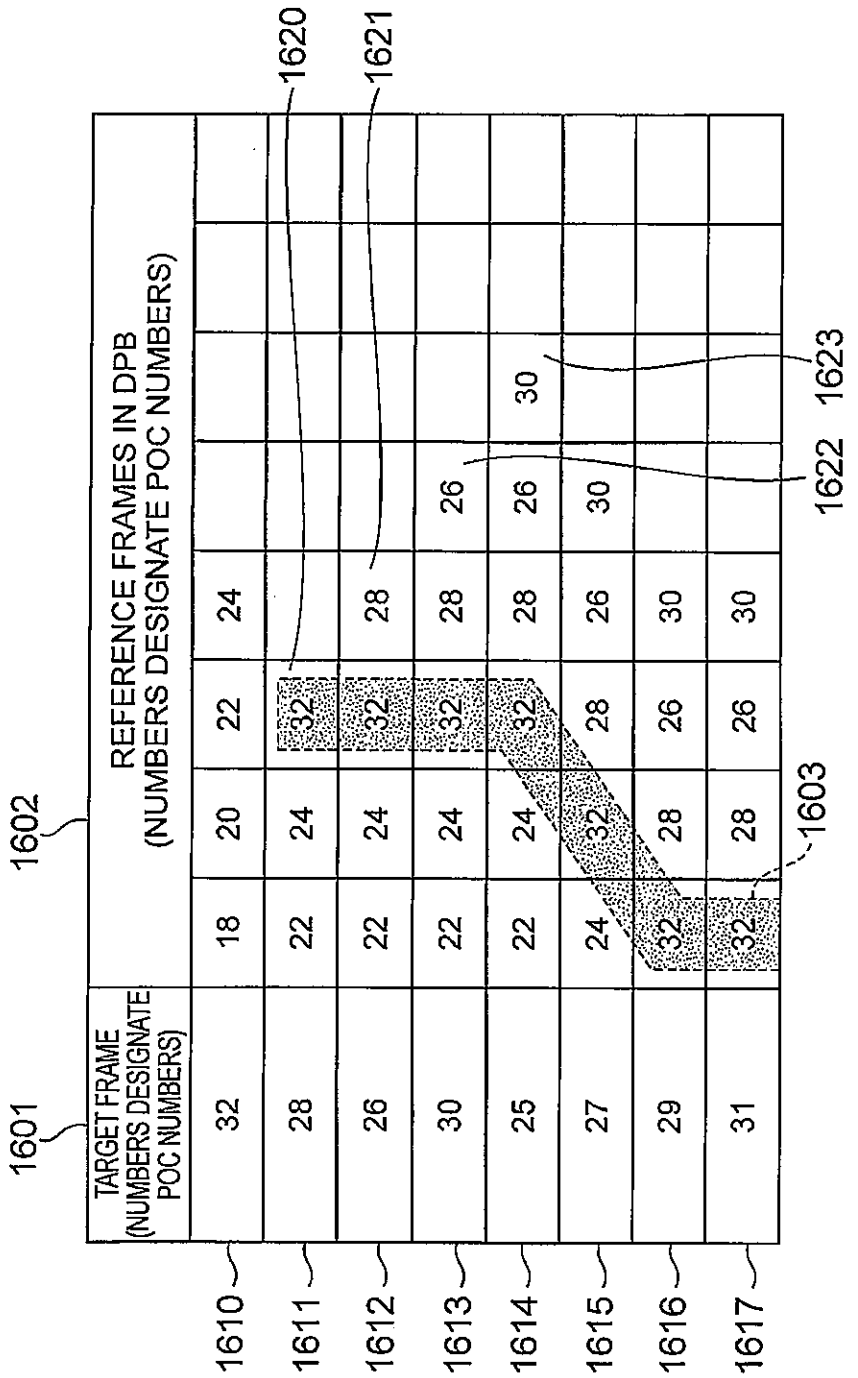

1601
1602
TARGET FRAME (NUMBERS DESIGNATE POC NUMBERS)
REFERENCE FRAMES IN DPB (NUMBERS DESIGNATE POC NUMBERS)
1610
1611
1612
1613
1614
1615
1616
1617
1620
1621
1622
1623
1603

Fig.17

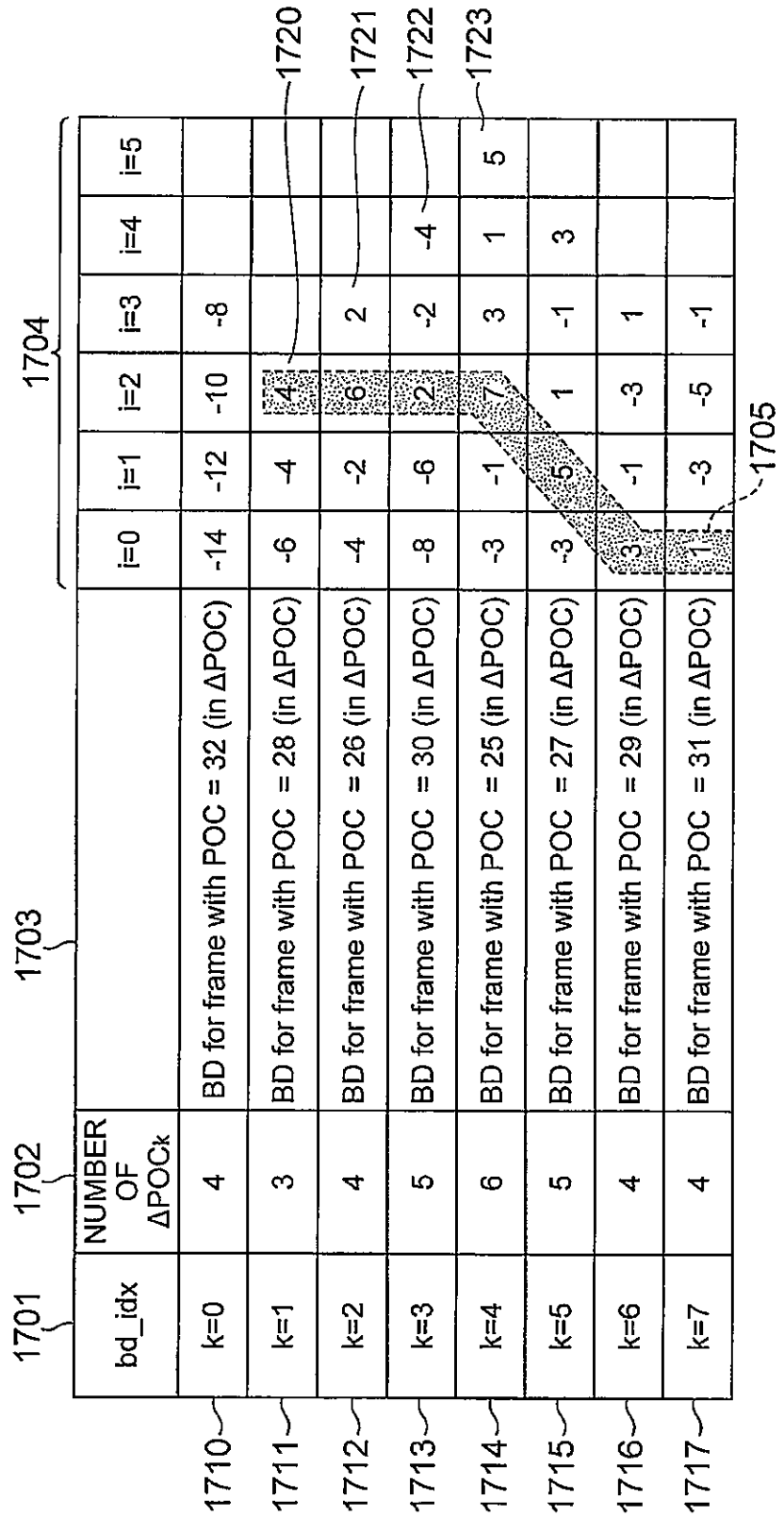

1701
1702
1703
1704
1705
1710
1711
1712
1713
1714
1715
1716
1717
1720
1721
1722
1723
bd_idx
NUMBER OF ΔPOCk
BD for frame with POC = 32 (in ΔPOC)
BD for frame with POC = 28 (in ΔPOC)
BD for frame with POC = 26 (in ΔPOC)
BD for frame with POC = 30 (in ΔPOC)
BD for frame with POC = 25 (in ΔPOC)
BD for frame with POC = 27 (in ΔPOC)
BD for frame with POC = 29 (in ΔPOC)
BD for frame with POC = 31 (in ΔPOC)
i=0
i=1
i=2
i=3
i=4
i=5
k=0 4 -14 -12 -10 -8
k=1 3 -6 -4 4
k=2 4 -4 -2 6 2
k=3 5 -8 -6 2 -2 -4
k=4 6 -3 -1 7 3 1 5
k=5 5 -3 5 1 -1 3
k=6 4 3 -1 -3 1
k=7 4 1 -3 -5 -1

Fig.18

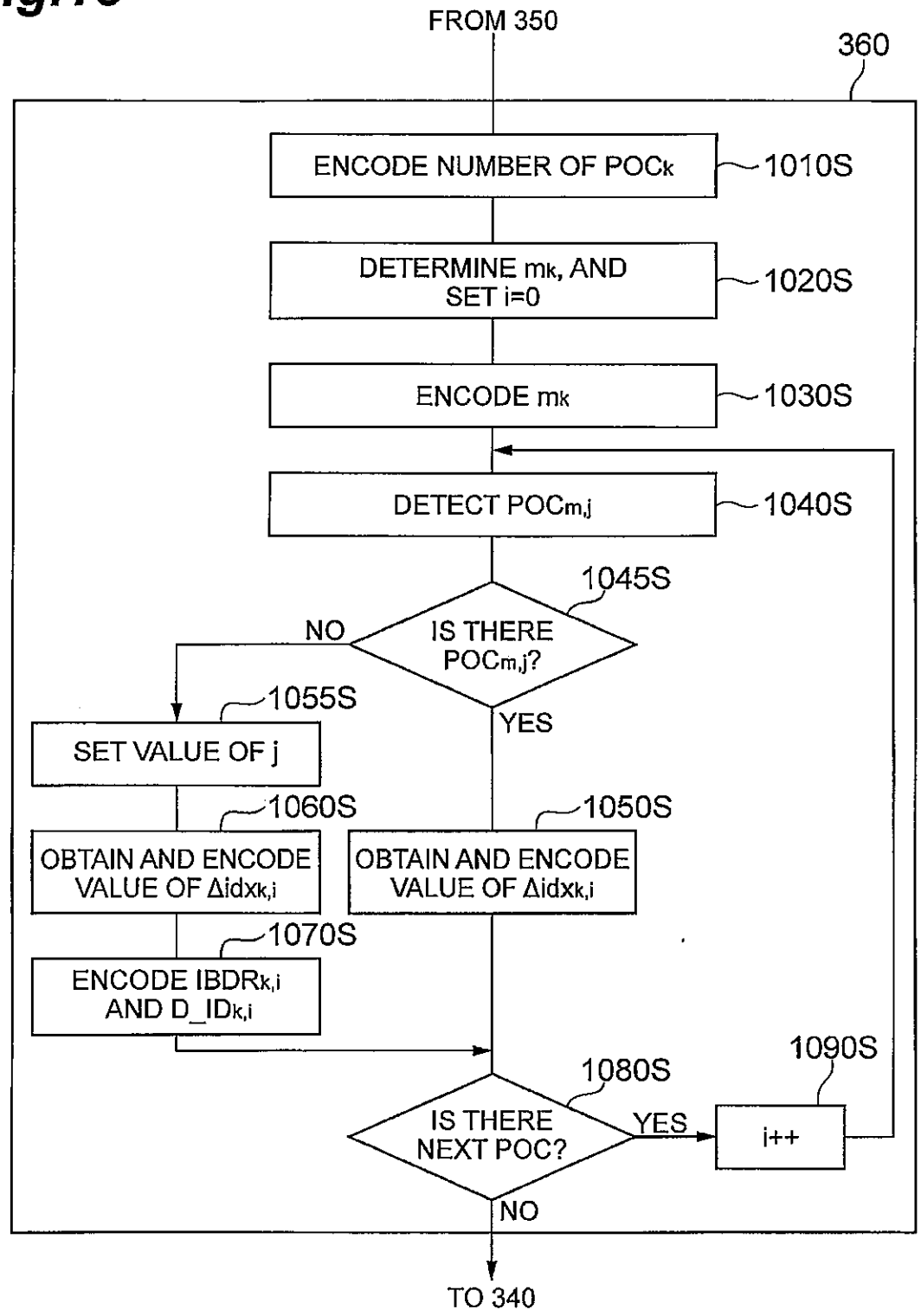

FROM 350
360
ENCODE NUMBER OF POCk
1010S
DETERMINE mk, AND SET i=0
1020S
ENCODE mk
1030S
DETECT POCm,j
1040S
1045S
IS THERE POCm,j?
NO
YES
1055S
SET VALUE OF j
1060S
OBTAIN AND ENCODE VALUE OF Δidxk,i
1050S
OBTAIN AND ENCODE VALUE OF Δidxk,i
1070S
ENCODE IBDRk,i AND D_IDk,i
1080S
IS THERE NEXT POC?
YES
1090S
i++
NO
TO 340

Fig.19

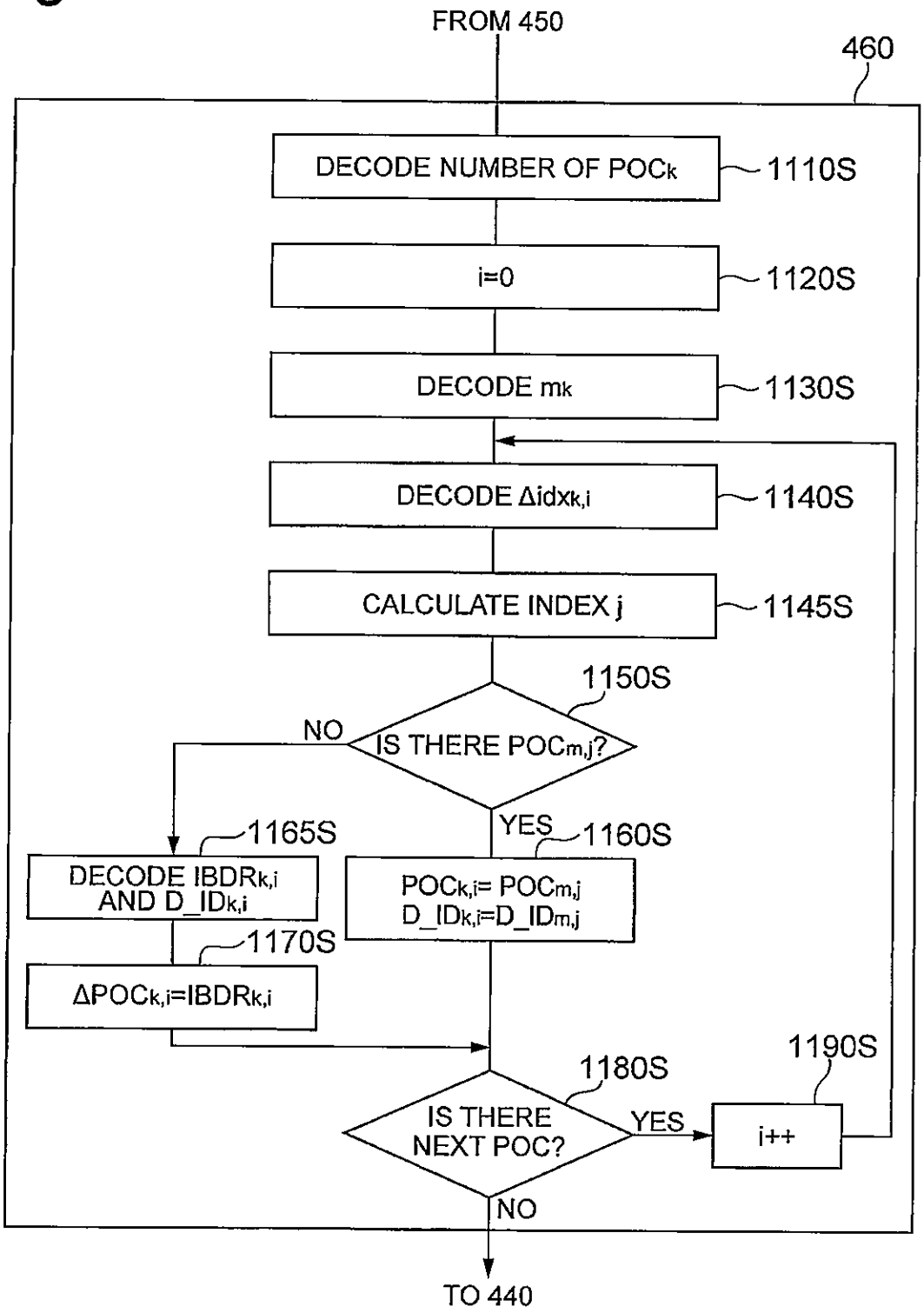

FROM 450
460
DECODE NUMBER OF POCk
1110S
i=0
1120S
DECODE mk
1130S
DECODE Δidxk,i
1140S
CALCULATE INDEX j
1145S
1150S
IS THERE POCm,j?
NO
YES
1160S
POCk,i= POCm,j
D_IDk,i=D_IDm,j
1165S
DECODE IBDRk,i
AND D_IDk,i
1170S
ΔPOCk,i=IBDRk,i
1180S
IS THERE
NEXT POC?
YES
1190S
i++
NO
TO 440

Fig.20

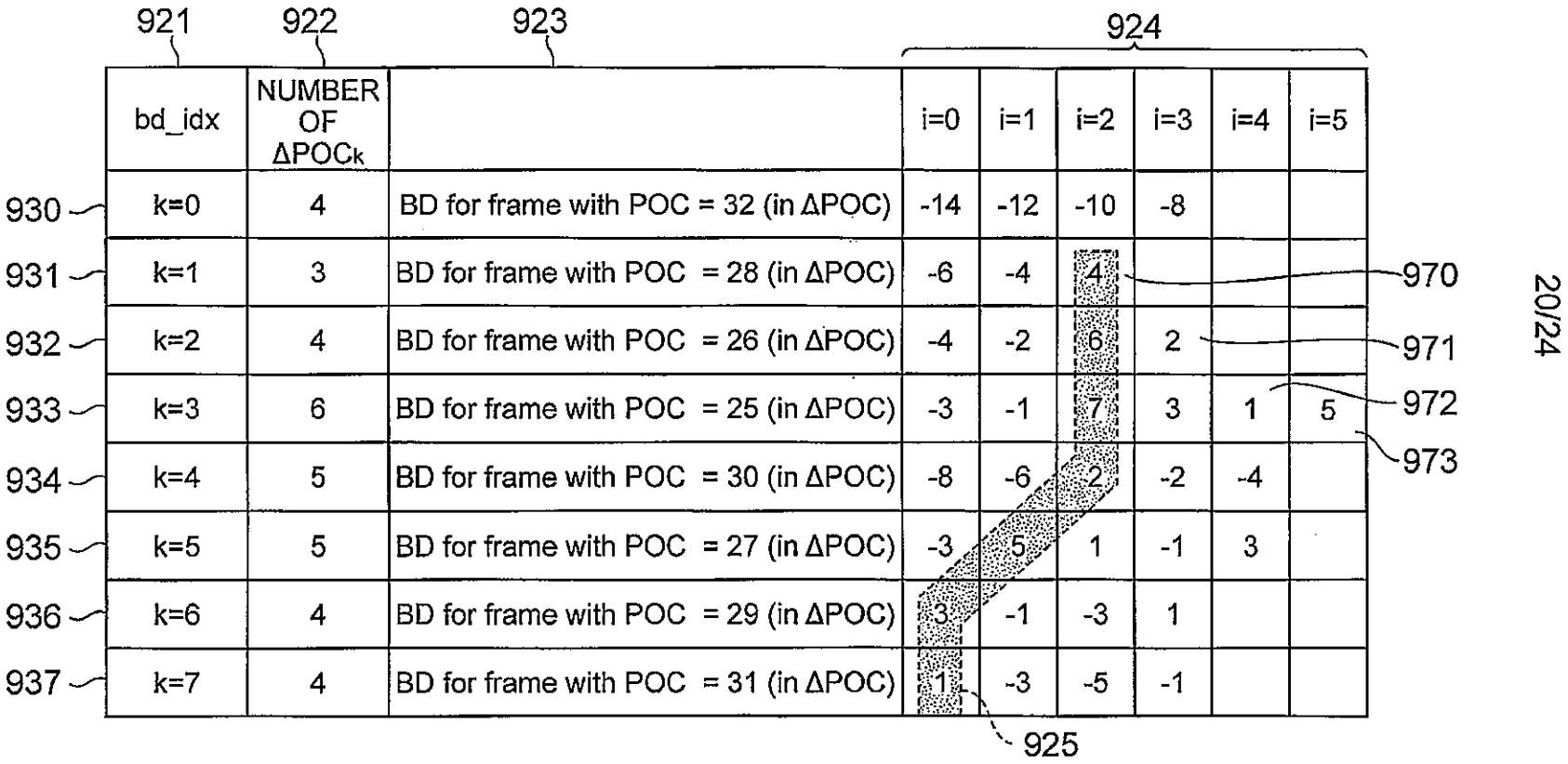
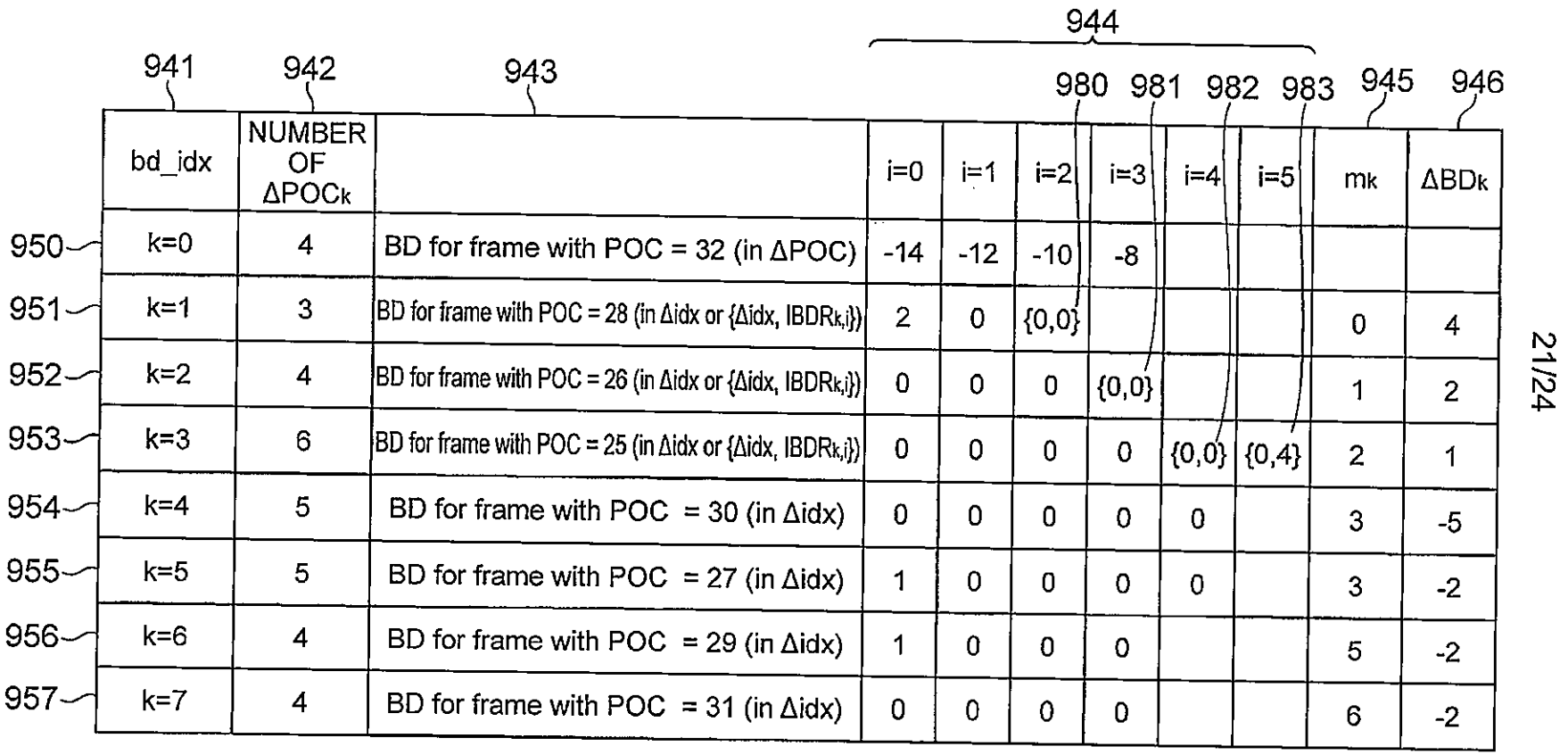

921
922
923
924
bd_idx
NUMBER OF ΔPOCk
i=0
i=1
i=2
i=3
i=4
i=5
930
k=0
4
BD for frame with POC = 32 (in ΔPOC)
-14
-12
-10
-8
931
k=1
3
BD for frame with POC = 28 (in ΔPOC)
-6
-4
4
970
932
k=2
4
BD for frame with POC = 26 (in ΔPOC)
-4
-2
6
2
971
933
k=3
6
BD for frame with POC = 25 (in ΔPOC)
-3
-1
7
3
1
5
972
973
934
k=4
5
BD for frame with POC = 30 (in ΔPOC)
-8
-6
2
-2
-4
935
k=5
5
BD for frame with POC = 27 (in ΔPOC)
-3
5
1
-1
3
936
k=6
4
BD for frame with POC = 29 (in ΔPOC)
3
-1
-3
1
937
k=7
4
BD for frame with POC = 31 (in ΔPOC)
1
-3
-5
-1
925

Fig.21



	941 bd_idx	942 NUMBER OF ΔPOCk	943	944 i=0	i=1	i=2 (980)	i=3 (981)	i=4 (982)	i=5 (983)	945 mk	946 ΔBDk
950	k=0	4	BD for frame with POC = 32 (in ΔPOC)	-14	-12	-10	-8				
951	k=1	3	BD for frame with POC = 28 (in Δidx or {Δidx, IBDRk,i})	2	0	{0,0}				0	4
952	k=2	4	BD for frame with POC = 26 (in Δidx or {Δidx, IBDRk,i})	0	0	0	{0,0}			1	2
953	k=3	6	BD for frame with POC = 25 (in Δidx or {Δidx, IBDRk,i})	0	0	0	0	{0,0}	{0,4}	2	1
954	k=4	5	BD for frame with POC = 30 (in Δidx)	0	0	0	0	0		3	-5
955	k=5	5	BD for frame with POC = 27 (in Δidx)	1	0	0	0	0		3	-2
956	k=6	4	BD for frame with POC = 29 (in Δidx)	1	0	0	0			5	-2
957	k=7	4	BD for frame with POC = 31 (in Δidx)	0	0	0	0			6	-2

Fig.22

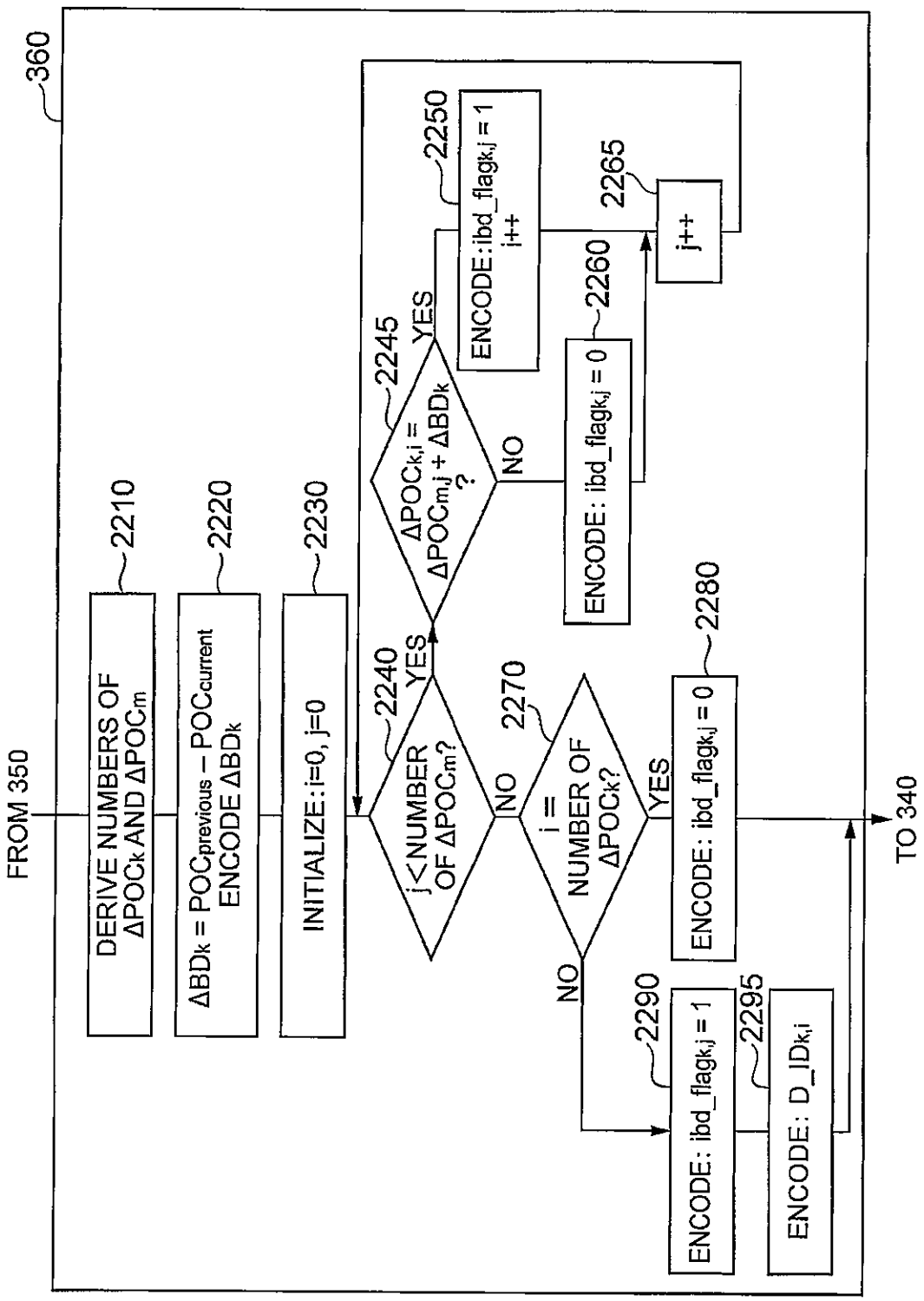

360
FROM 350
TO 340
DERIVE NUMBERS OF ΔPOCk AND ΔPOCm
2210
ΔBDk = POCprevious – POCcurrent ENCODE ΔBDk
2220
INITIALIZE: i=0, j=0
2230
j<NUMBER OF ΔPOCm?
2240
YES
NO
ΔPOCk,i = ΔPOCm,j + ΔBDk ?
2245
YES
NO
ENCODE: ibd_flagk,j = 1 i++
2250
ENCODE: ibd_flagk,j = 0
2260
j++
2265
i = NUMBER OF ΔPOCk?
2270
YES
NO
ENCODE: ibd_flagk,j = 0
2280
ENCODE: ibd_flagk,j = 1
2290
ENCODE: D_IDk,i
2295

Fig.23

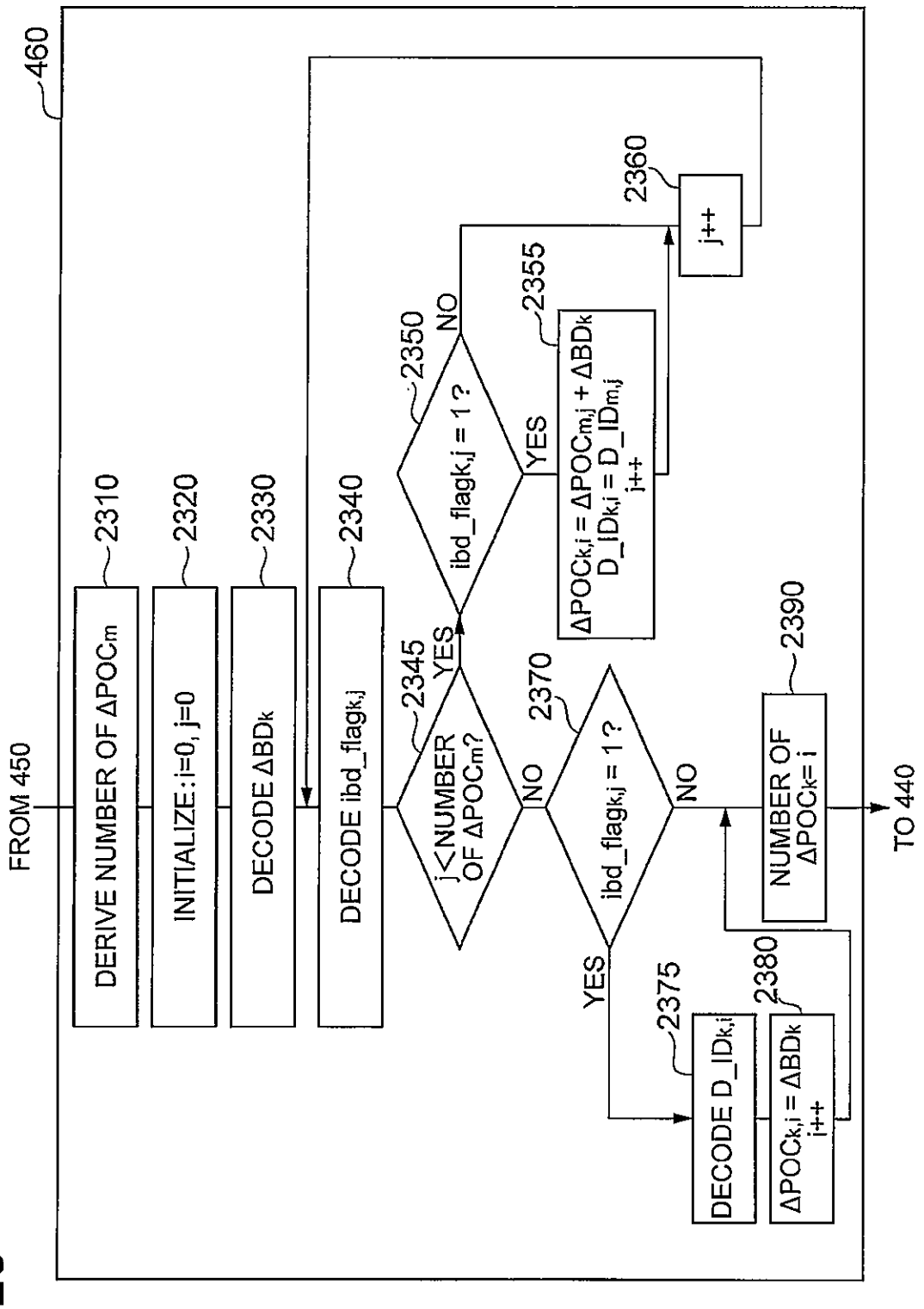
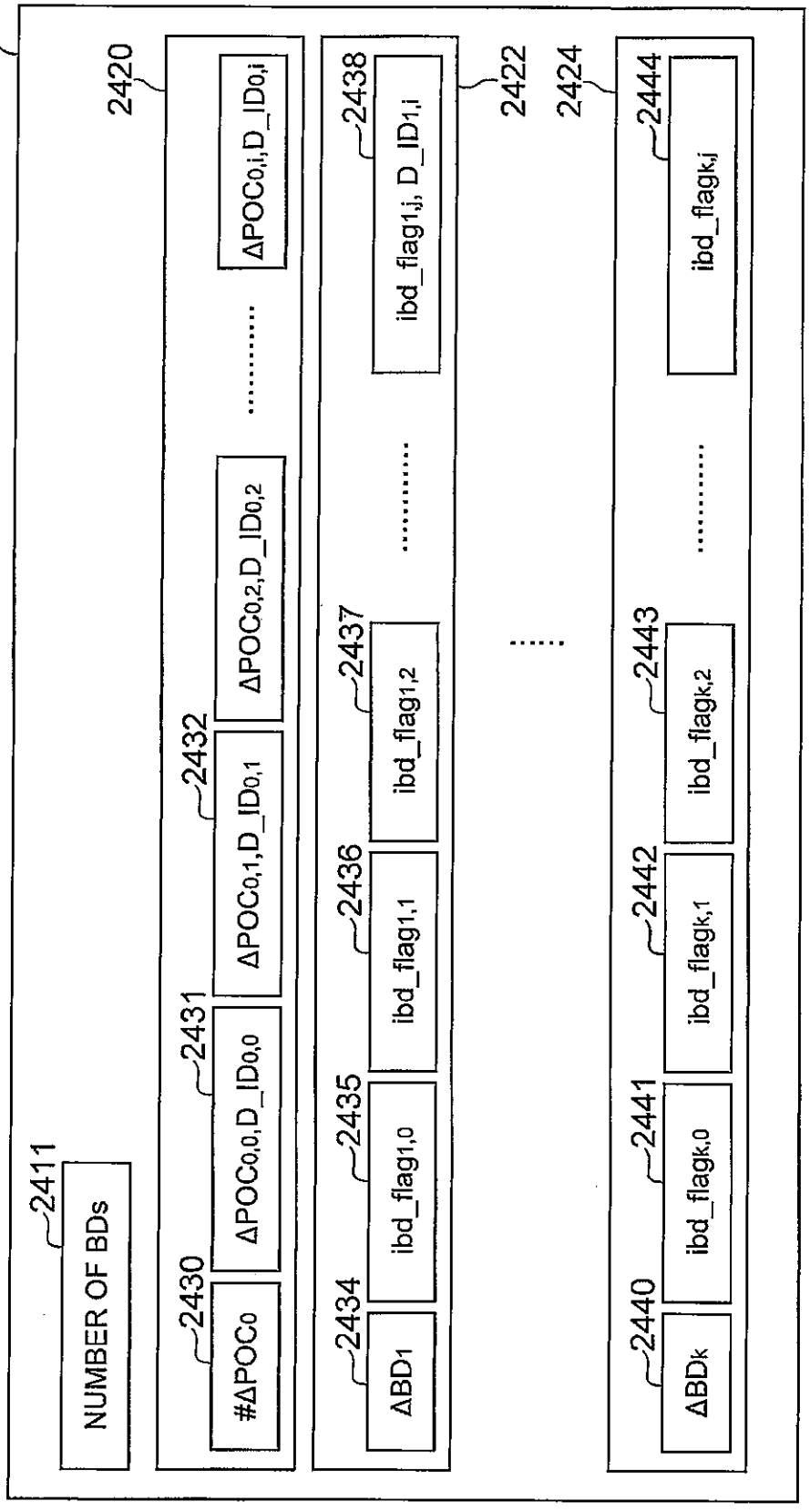

460
FROM 450
DERIVE NUMBER OF ΔPOCm
2310
INITIALIZE: i=0, j=0
2320
DECODE ΔBDk
2330
DECODE ibd_flagk,j
2340
j<NUMBER OF ΔPOCm?
2345
YES
NO
ibd_flagk,j = 1 ?
2350
NO
YES
ΔPOCk,i = ΔPOCm,j + ΔBDk
D_IDk,i = D_IDm,j
j++
2355
j++
2360
ibd_flagk,j = 1 ?
2370
YES
NO
DECODE D_IDk,i
2375
ΔPOCk,i = ΔBDk
i++
2380
NUMBER OF ΔPOCk= i
2390
TO 440

Fig.24


2410
2411
NUMBER OF BDs
2420
2430
#ΔPOC0
2431
ΔPOC0,0,D_ID0,0
2432
ΔPOC0,1,D_ID0,1
ΔPOC0,2,D_ID0,2
.....
ΔPOC0,i,D_ID0,i
2434
ΔBD1
2435
ibd_flag1,0
2436
ibd_flag1,1
2437
ibd_flag1,2
.....
2438
ibd_flag1,j, D_ID1,i
2422
2424
2440
ΔBDk
2441
ibd_flagk,0
2442
ibd_flagk,1
2443
ibd_flagk,2
.....
2444
ibd_flagk,j