FIG. 1

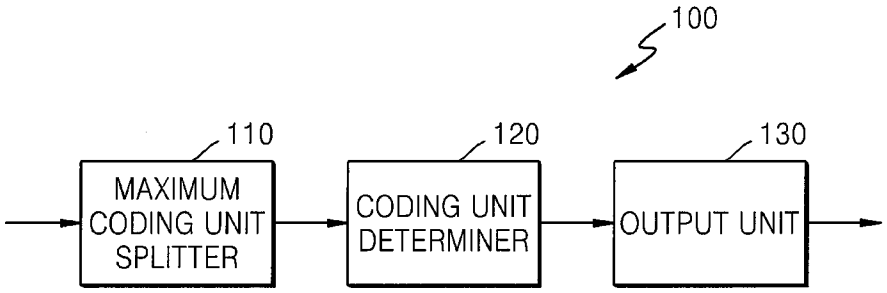

100
110
MAXIMUM CODING UNIT SPLITTER
120
CODING UNIT DETERMINER
130
OUTPUT UNIT

FIG. 2

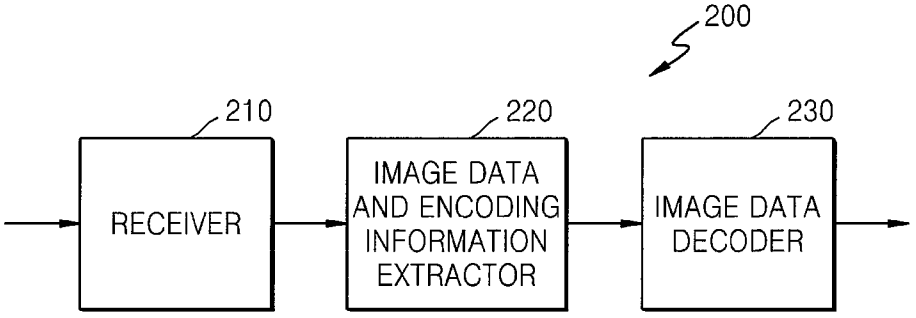

200
210
RECEIVER
220
IMAGE DATA AND ENCODING INFORMATION EXTRACTOR
230
IMAGE DATA DECODER

FIG. 3

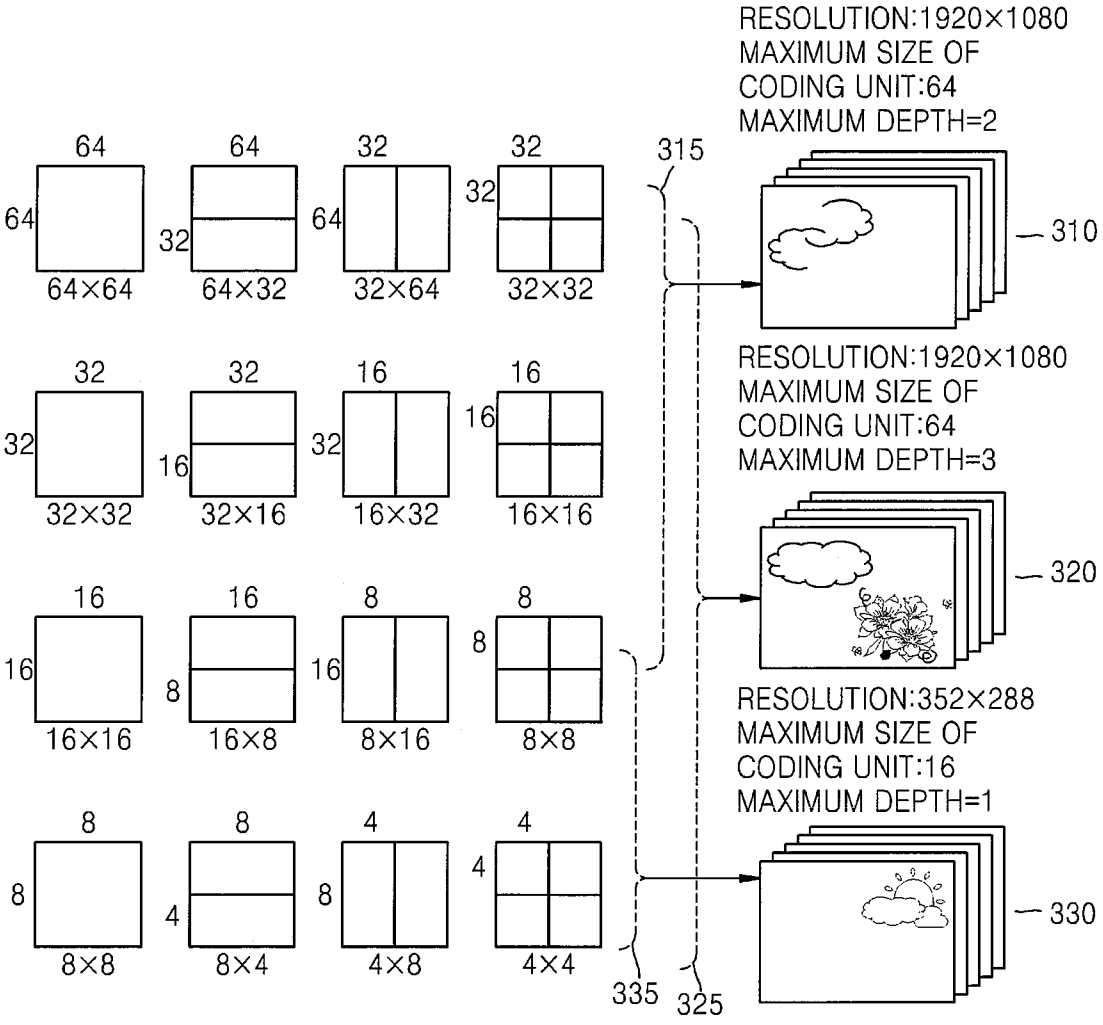

RESOLUTION:1920×1080
MAXIMUM SIZE OF
CODING UNIT:64
MAXIMUM DEPTH=2
RESOLUTION:1920×1080
MAXIMUM SIZE OF
CODING UNIT:64
MAXIMUM DEPTH=3
RESOLUTION:352×288
MAXIMUM SIZE OF
CODING UNIT:16
MAXIMUM DEPTH=1
64×64
64×32
32×64
32×32
32×32
32×16
16×32
16×16
16×16
16×8
8×16
8×8
8×8
8×4
4×8
4×4
315
310
320
330
335
325

FIG. 4

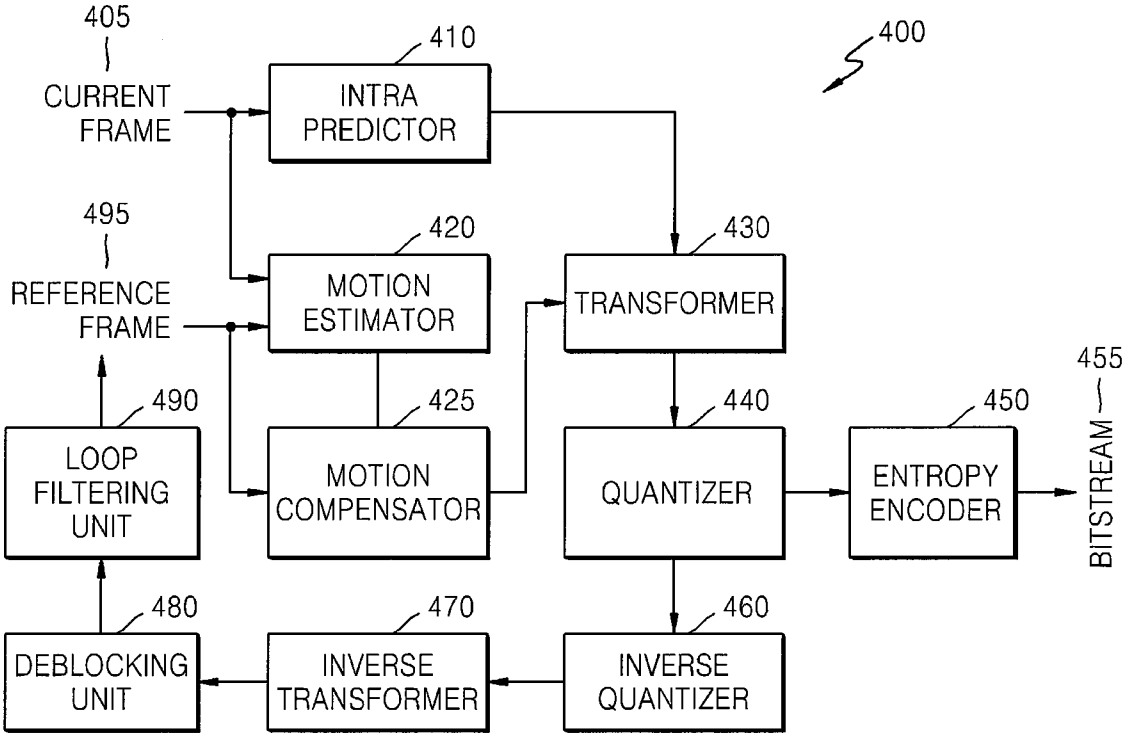

405
CURRENT FRAME
410
INTRA PREDICTOR
400
495
REFERENCE FRAME
420
MOTION ESTIMATOR
430
TRANSFORMER
455
BITSTREAM
490
LOOP FILTERING UNIT
425
MOTION COMPENSATOR
440
QUANTIZER
450
ENTROPY ENCODER
480
DEBLOCKING UNIT
470
INVERSE TRANSFORMER
460
INVERSE QUANTIZER

FIG. 5

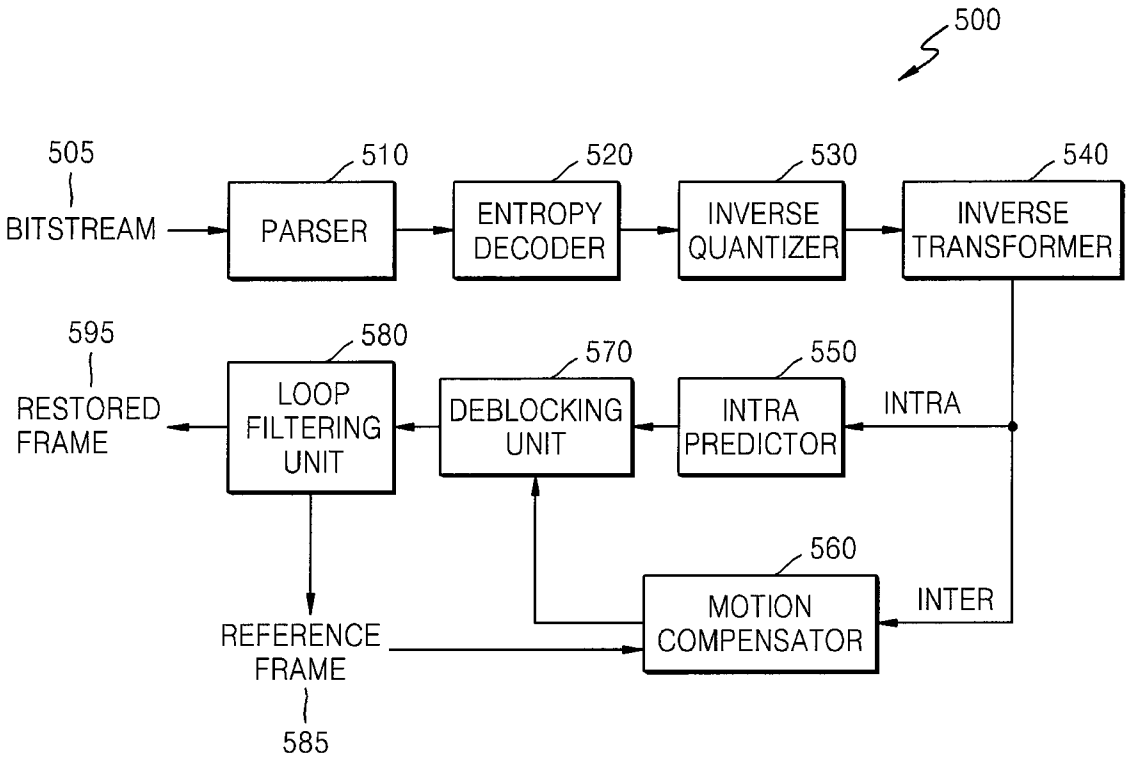

500
505
BITSTREAM
510
PARSER
520
ENTROPY DECODER
530
INVERSE QUANTIZER
540
INVERSE TRANSFORMER
595
RESTORED FRAME
580
LOOP FILTERING UNIT
570
DEBLOCKING UNIT
550
INTRA PREDICTOR
INTRA
560
MOTION COMPENSATOR
INTER
REFERENCE FRAME
585

FIG. 6

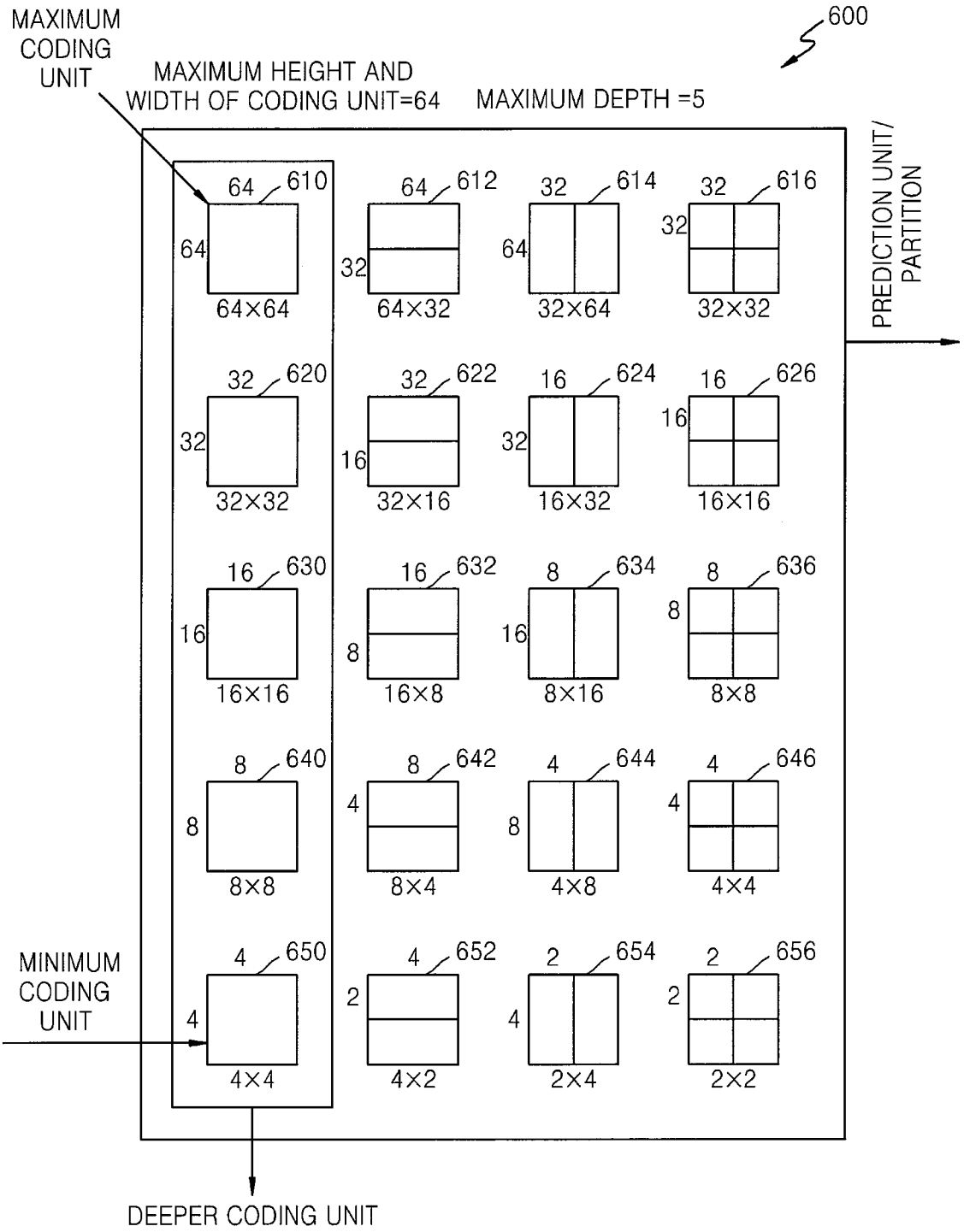

MAXIMUM CODING UNIT
600
MAXIMUM HEIGHT AND WIDTH OF CODING UNIT=64
MAXIMUM DEPTH =5
PREDICTION UNIT/ PARTITION
64 610
64 64×64
64 612
32 64×32
32 614
64 32×64
32 616
32 32×32
32 620
32 32×32
32 622
16 32×16
16 624
32 16×32
16 626
16 16×16
16 630
16 16×16
16 632
8 16×8
8 634
16 8×16
8 636
8 8×8
8 640
8 8×8
8 642
4 8×4
4 644
8 4×8
4 646
4 4×4
4 650
4 4×4
4 652
2 4×2
2 654
4 2×4
2 656
2 2×2
MINIMUM CODING UNIT
DEEPER CODING UNIT

FIG. 7

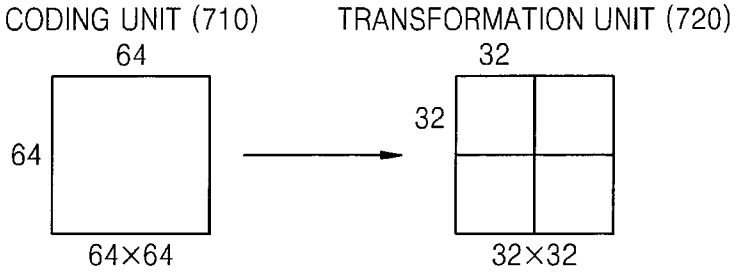

CODING UNIT (710)
TRANSFORMATION UNIT (720)
64
64
64×64
32
32
32×32

FIG. 8

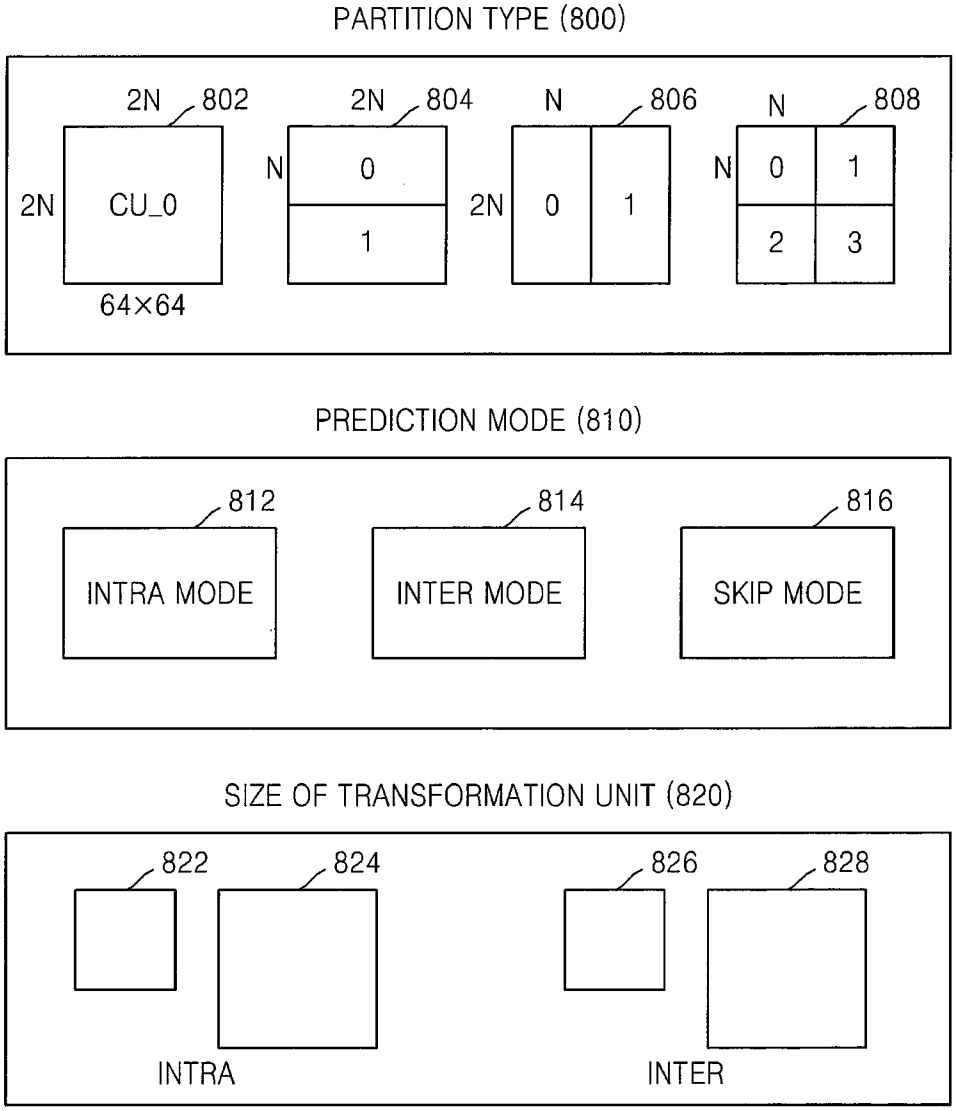

PARTITION TYPE (800)
2N
802
2N
CU_0
64×64
2N
804
N
0
1
N
806
2N
0
1
N
808
N
0
1
2
3
PREDICTION MODE (810)
812
INTRA MODE
814
INTER MODE
816
SKIP MODE
SIZE OF TRANSFORMATION UNIT (820)
822
824
826
828
INTRA
INTER

FIG. 9

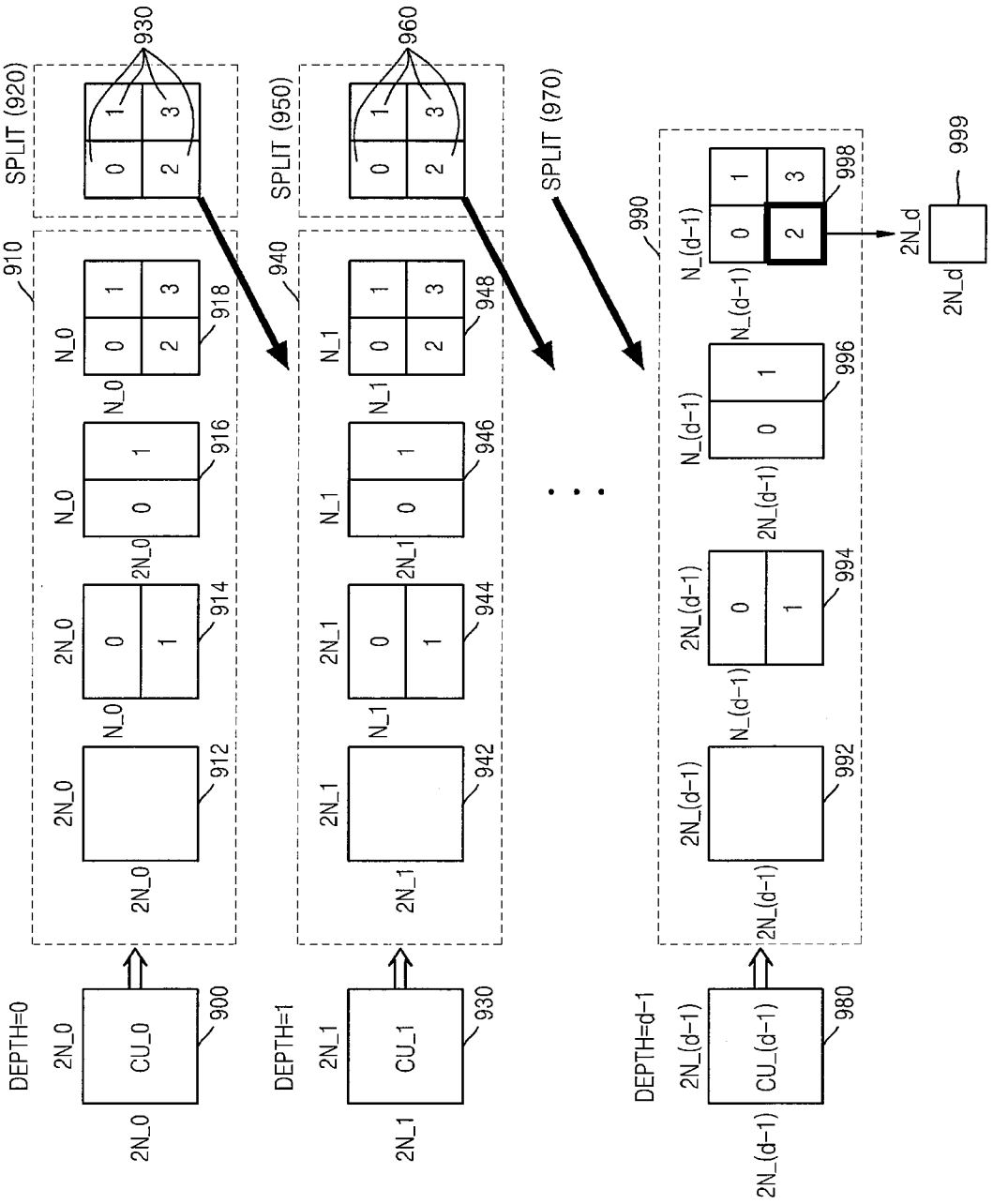
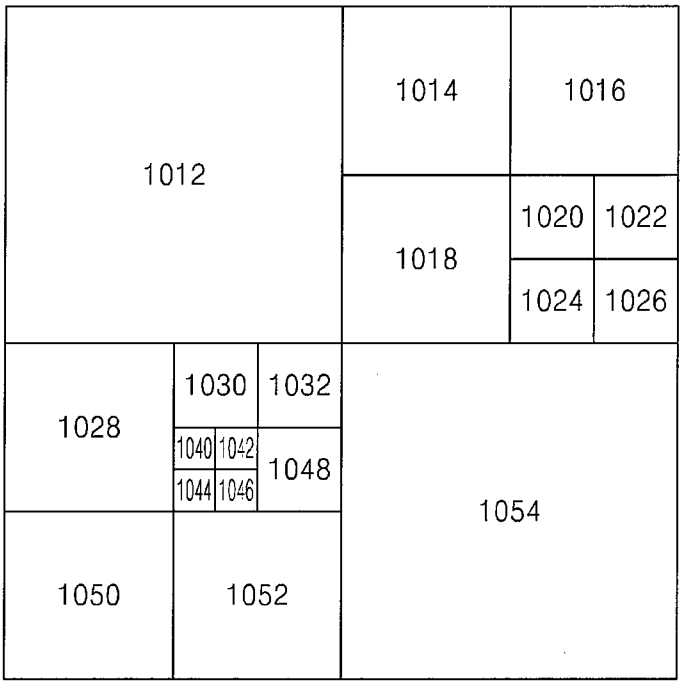

DEPTH=0
DEPTH=1
DEPTH=d-1
CU_0
CU_1
CU_(d-1)
900
930
980
910
940
990
SPLIT (920)
SPLIT (950)
SPLIT (970)
912
914
916
918
942
944
946
948
992
994
996
998
999
930
960
2N_0
2N_1
2N_(d-1)
N_0
N_1
N_(d-1)
2N_d

FIG. 10



CODING UNIT (1010)

FIG. 11

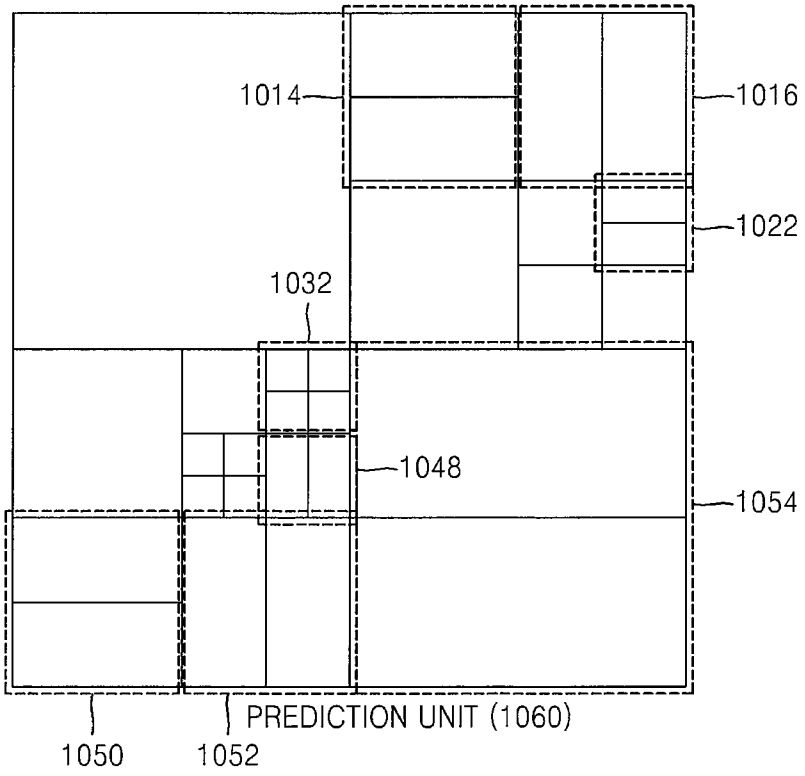


FIG. 12

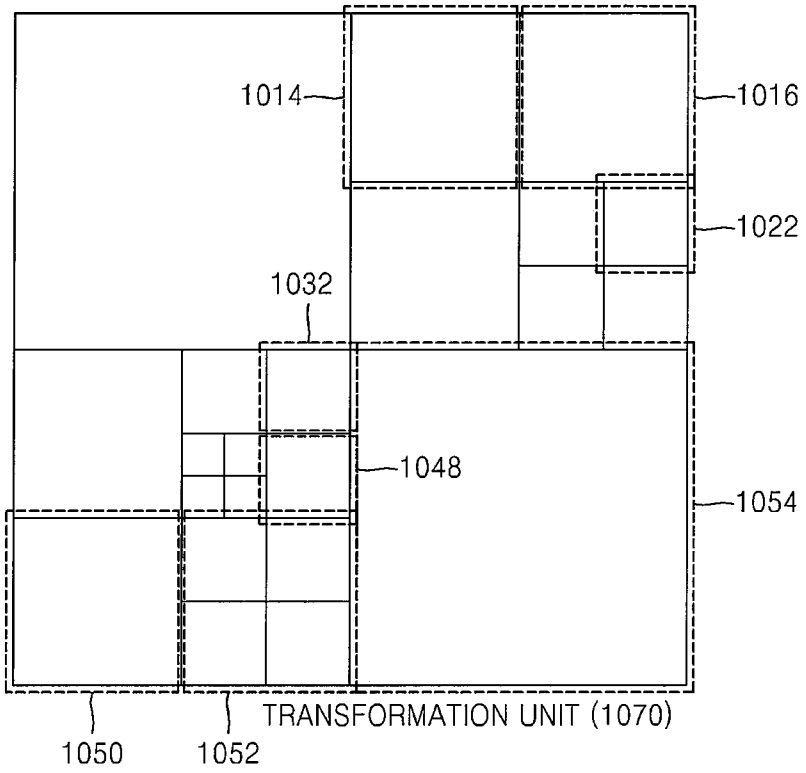

1014
1016
1022
1032
1048
1054
1050
1052
TRANSFORMATION UNIT (1070)

FIG. 13

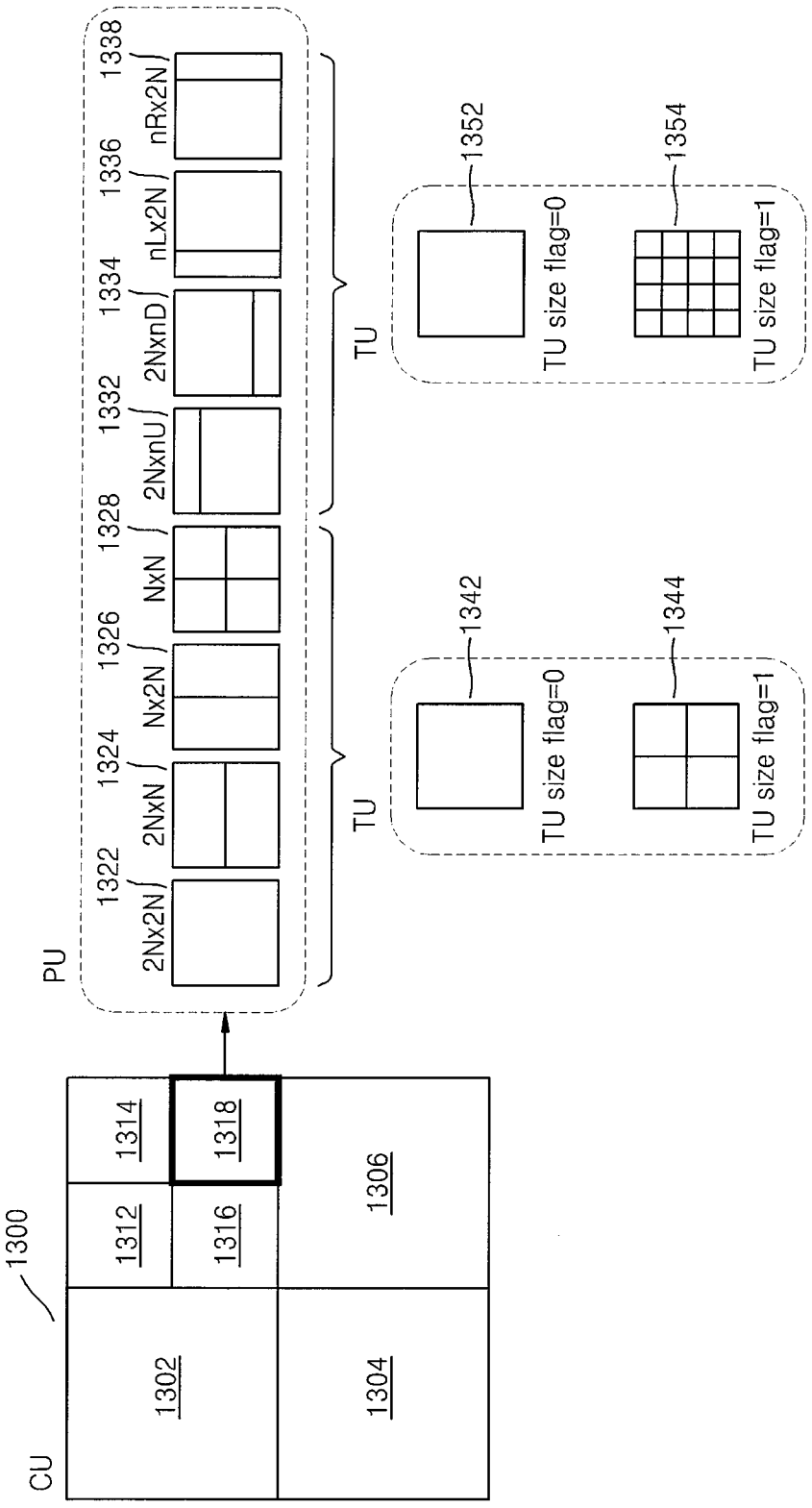

CU
1300
1302
1304
1306
1312
1314
1316
1318
PU
2Nx2N
1322
2NxN
1324
Nx2N
1326
NxN
1328
2NxnU
1332
2NxnD
1334
nLx2N
1336
nRx2N
1338
TU
TU
1342
TU size flag=0
1344
TU size flag=1
1352
TU size flag=0
1354
TU size flag=1

FIG. 14

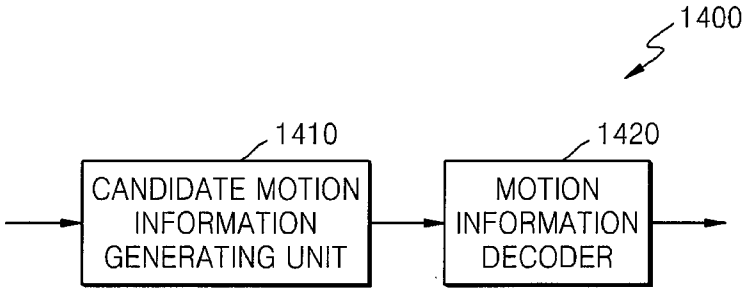

1400
1410
CANDIDATE MOTION INFORMATION GENERATING UNIT
1420
MOTION INFORMATION DECODER

FIG. 15

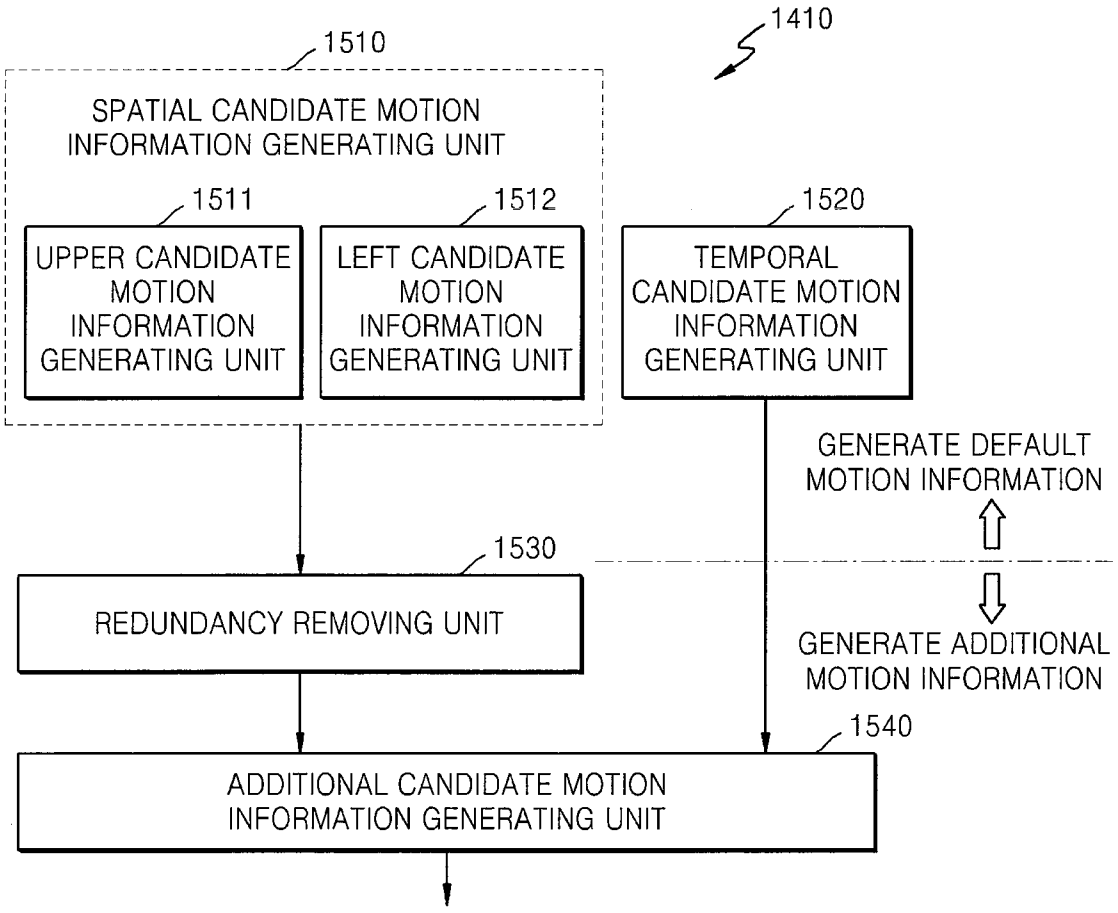

1410
1510
SPATIAL CANDIDATE MOTION INFORMATION GENERATING UNIT
1511
UPPER CANDIDATE MOTION INFORMATION GENERATING UNIT
1512
LEFT CANDIDATE MOTION INFORMATION GENERATING UNIT
1520
TEMPORAL CANDIDATE MOTION INFORMATION GENERATING UNIT
GENERATE DEFAULT MOTION INFORMATION
GENERATE ADDITIONAL MOTION INFORMATION
1530
REDUNDANCY REMOVING UNIT
1540
ADDITIONAL CANDIDATE MOTION INFORMATION GENERATING UNIT

FIG. 16

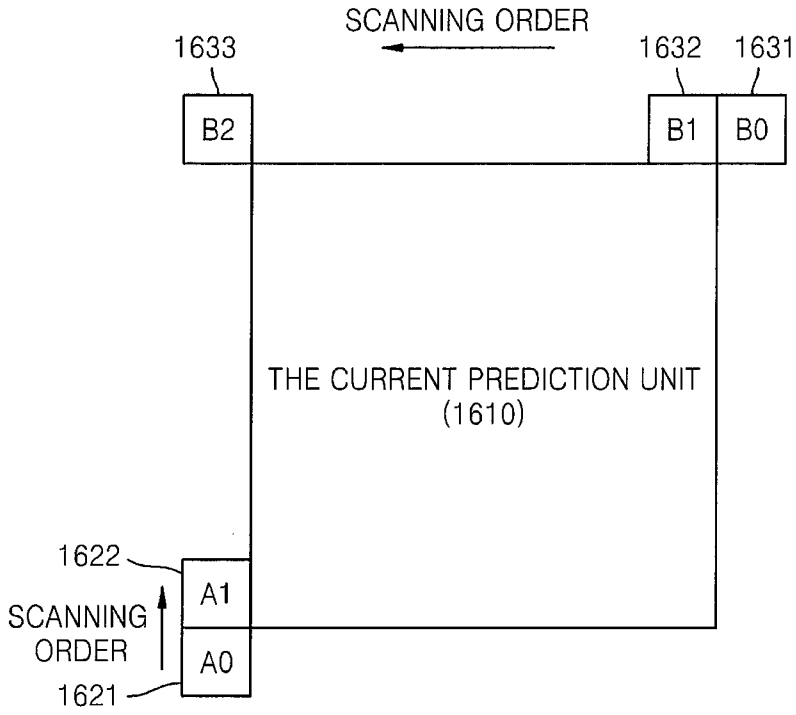

SCANNING ORDER
1633
1632
1631
B2
B1
B0
THE CURRENT PREDICTION UNIT
(1610)
1622
A1
SCANNING
ORDER
A0
1621

FIG. 17A

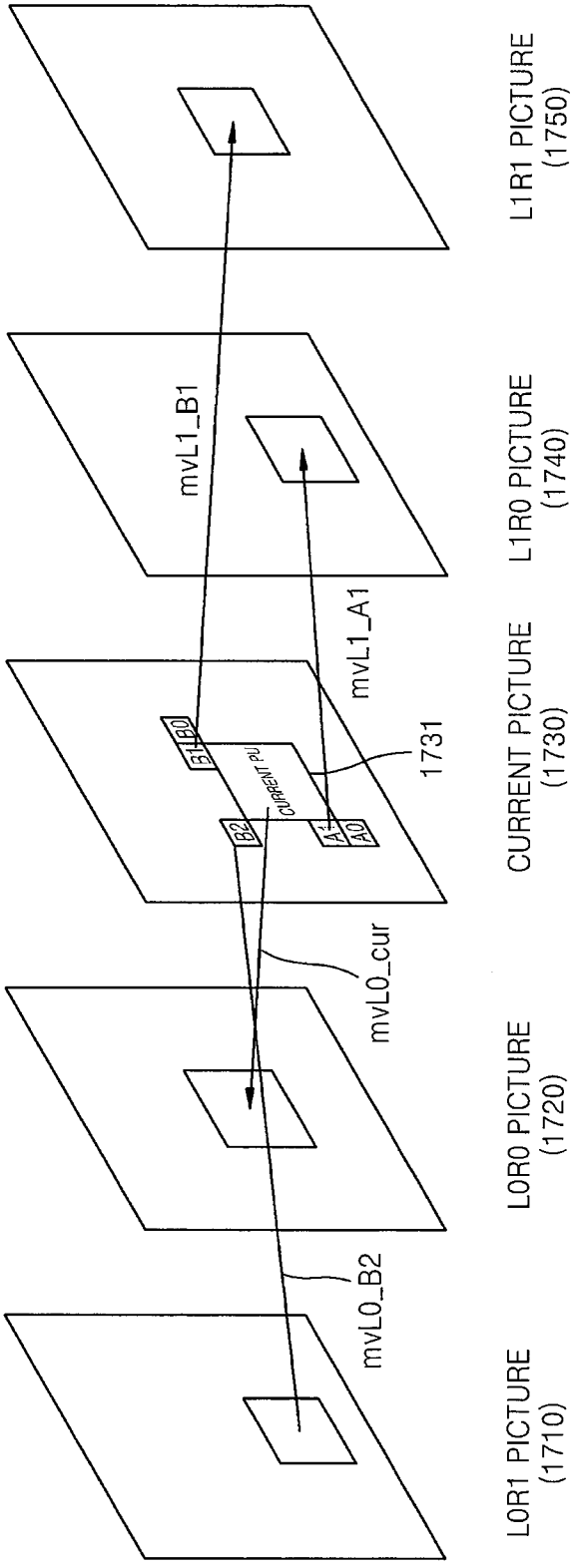

L0R1 PICTURE
(1710)
L0R0 PICTURE
(1720)
CURRENT PICTURE
(1730)
L1R0 PICTURE
(1740)
L1R1 PICTURE
(1750)
mvL0_B2
mvL0_cur
mvL1_A1
mvL1_B1
1731
B1
B0
B2
A1
A0
CURRENT PU

FIG. 17B

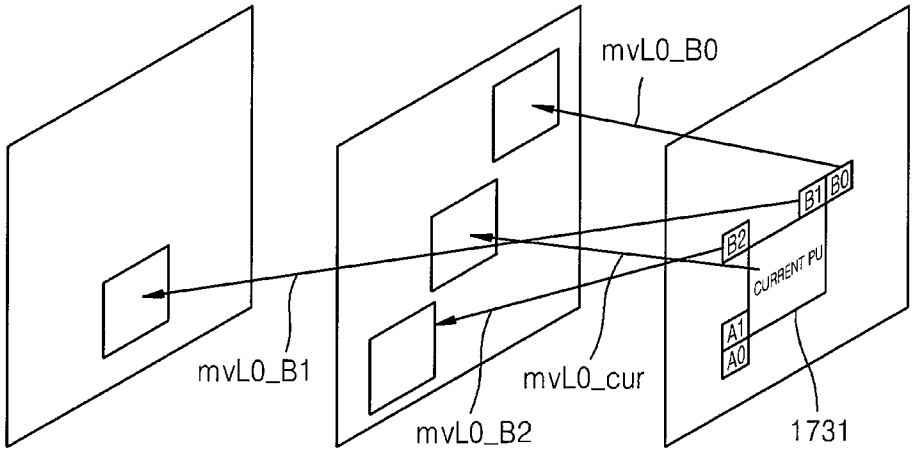

mvL0_B0
B1
B0
B2
CURRENT PU
A1
A0
mvL0_B1
mvL0_cur
mvL0_B2
1731
L0R1 PICTURE
(1710)
L0R0 PICTURE
(1720)
CURRENT PICTURE
(1730)

FIG. 18

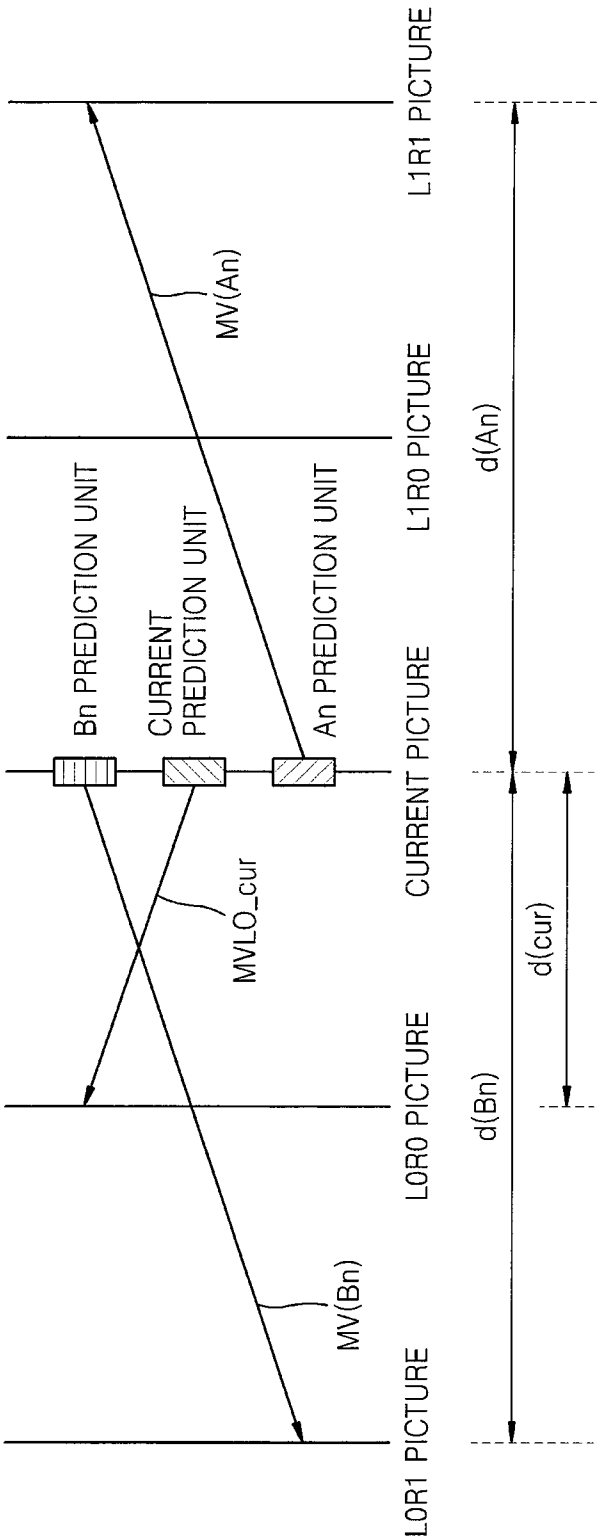

L1R1 PICTURE
L1R0 PICTURE
CURRENT PICTURE
L0R0 PICTURE
L0R1 PICTURE
MV(An)
MV(Bn)
MVLO_cur
Bn PREDICTION UNIT
CURRENT PREDICTION UNIT
An PREDICTION UNIT
d(An)
d(cur)
d(Bn)

FIG. 19

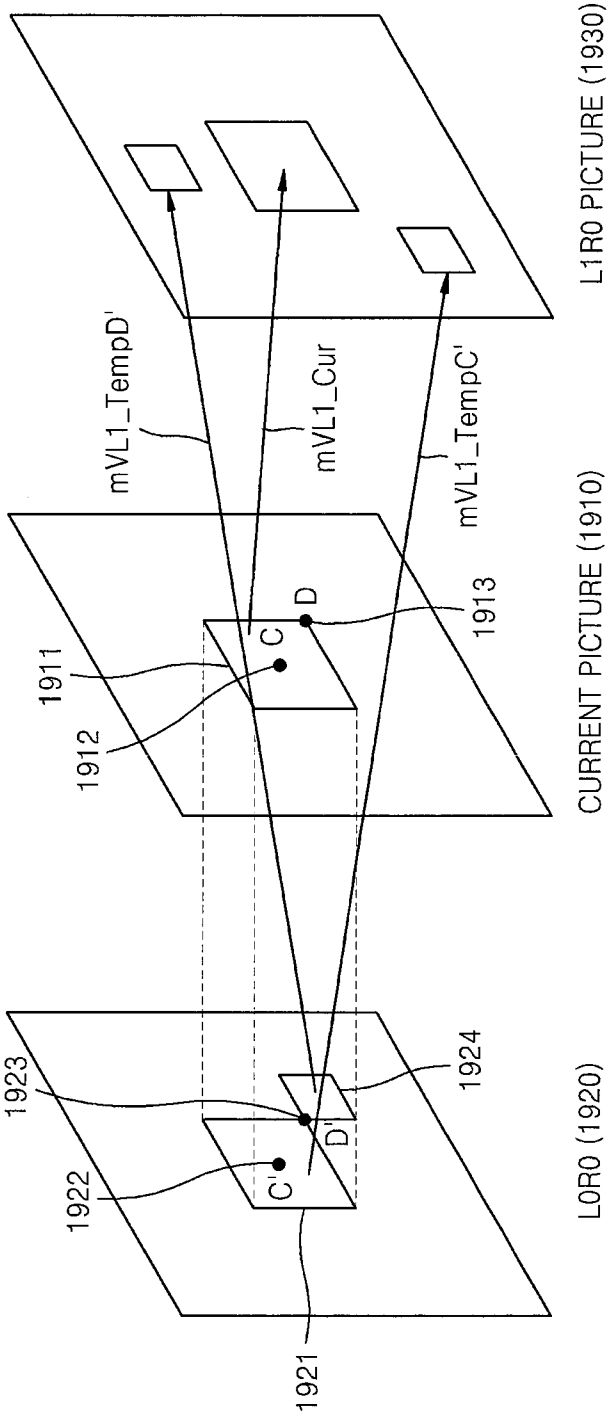

L1R0 PICTURE (1930)
CURRENT PICTURE (1910)
L0R0 (1920)
mVL1_TempD'
mVL1_Cur
mVL1_TempC'
1911
1912
1913
1921
1922
1923
1924
C
D
C'
D'

FIG. 20A

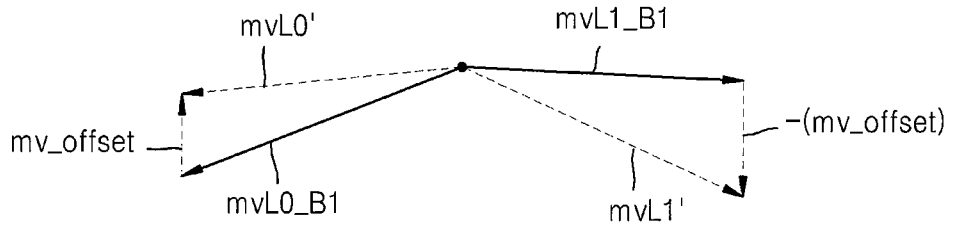


FIG. 20B

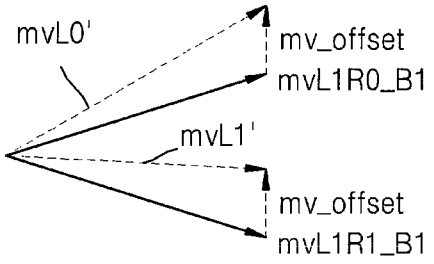


FIG. 21A

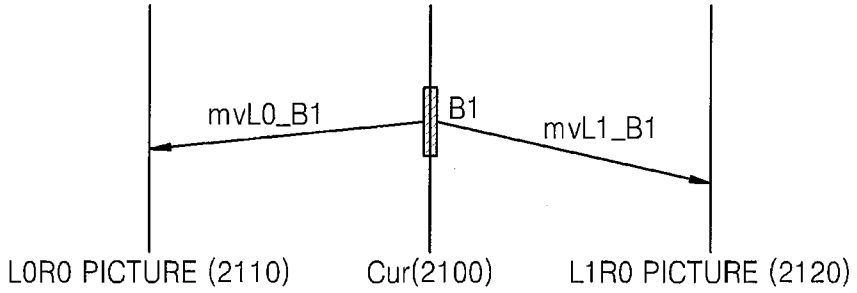


FIG. 21B

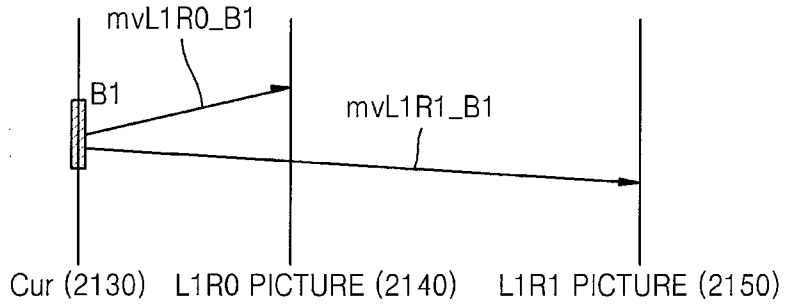


FIG. 22

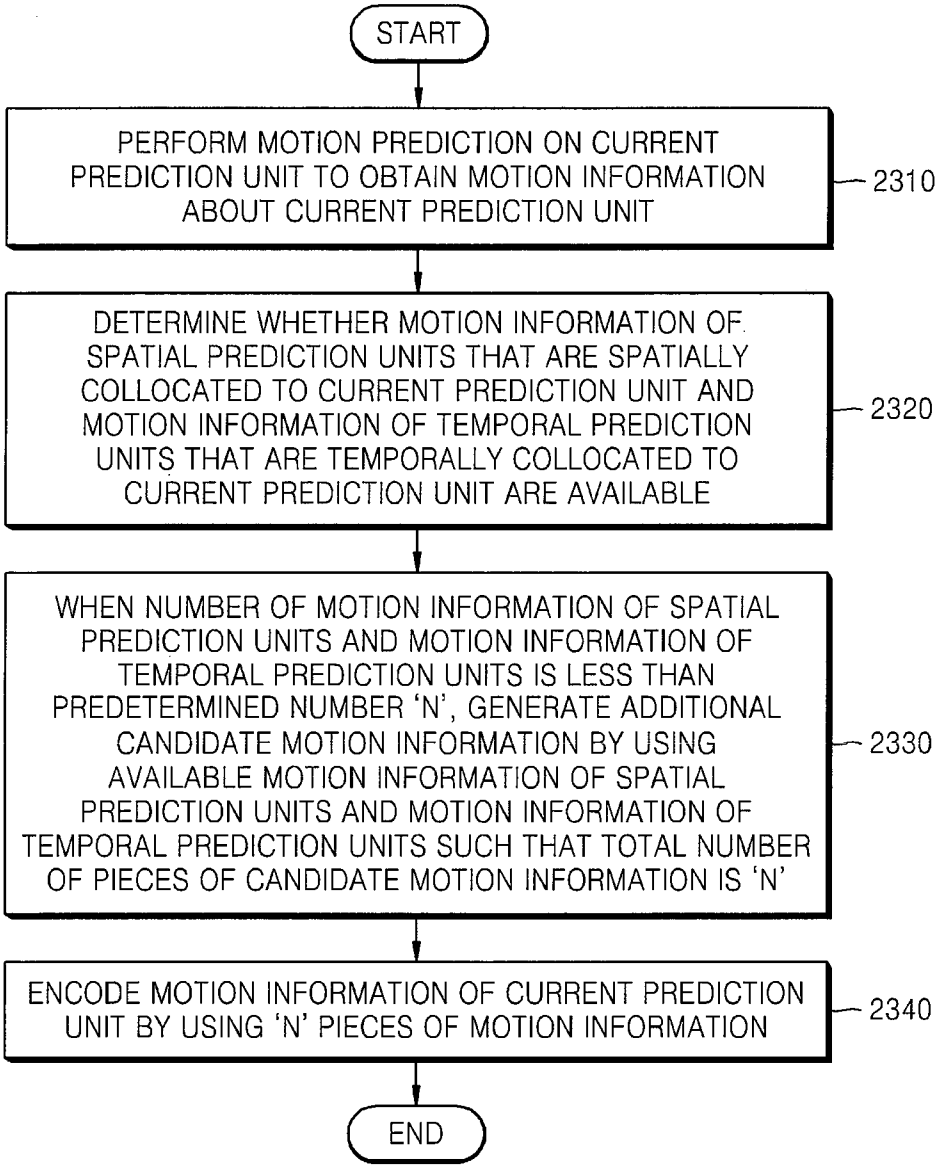

START
PERFORM MOTION PREDICTION ON CURRENT PREDICTION UNIT TO OBTAIN MOTION INFORMATION ABOUT CURRENT PREDICTION UNIT
2310
DETERMINE WHETHER MOTION INFORMATION OF SPATIAL PREDICTION UNITS THAT ARE SPATIALLY COLLOCATED TO CURRENT PREDICTION UNIT AND MOTION INFORMATION OF TEMPORAL PREDICTION UNITS THAT ARE TEMPORALLY COLLOCATED TO CURRENT PREDICTION UNIT ARE AVAILABLE
2320
WHEN NUMBER OF MOTION INFORMATION OF SPATIAL PREDICTION UNITS AND MOTION INFORMATION OF TEMPORAL PREDICTION UNITS IS LESS THAN PREDETERMINED NUMBER 'N', GENERATE ADDITIONAL CANDIDATE MOTION INFORMATION BY USING AVAILABLE MOTION INFORMATION OF SPATIAL PREDICTION UNITS AND MOTION INFORMATION OF TEMPORAL PREDICTION UNITS SUCH THAT TOTAL NUMBER OF PIECES OF CANDIDATE MOTION INFORMATION IS 'N'
2330
ENCODE MOTION INFORMATION OF CURRENT PREDICTION UNIT BY USING 'N' PIECES OF MOTION INFORMATION
2340
END

FIG. 23

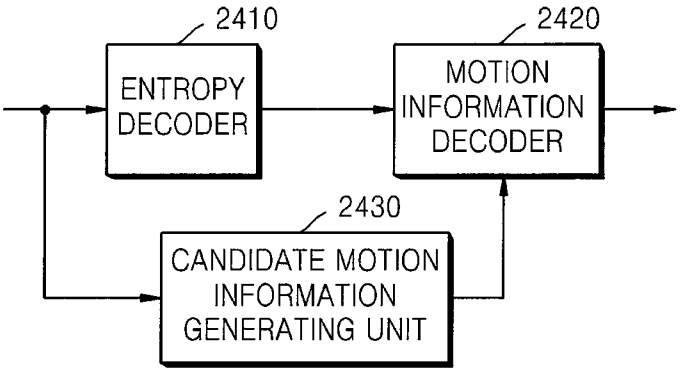
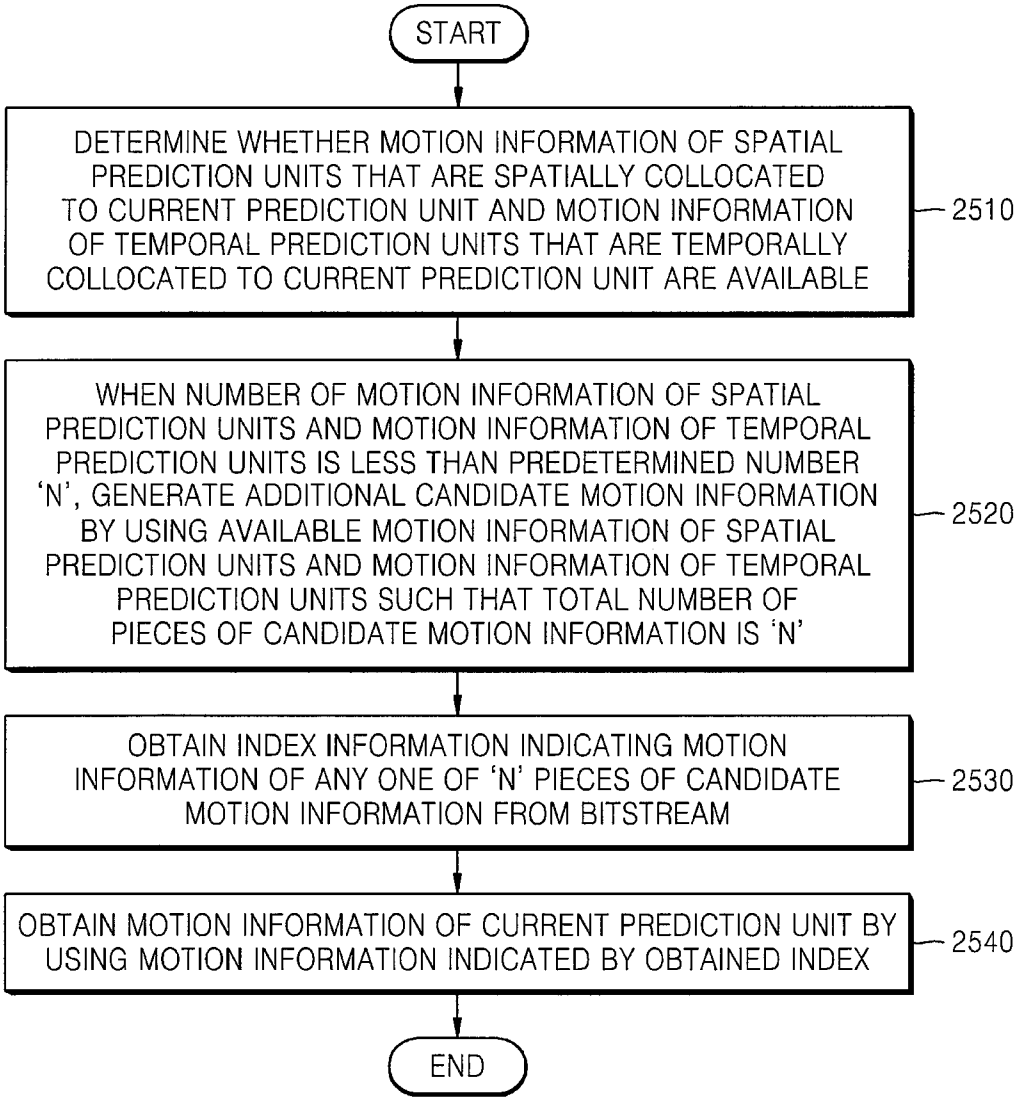

2410
ENTROPY DECODER
2420
MOTION INFORMATION DECODER
2430
CANDIDATE MOTION INFORMATION GENERATING UNIT

FIG. 24


START
DETERMINE WHETHER MOTION INFORMATION OF SPATIAL PREDICTION UNITS THAT ARE SPATIALLY COLLOCATED TO CURRENT PREDICTION UNIT AND MOTION INFORMATION OF TEMPORAL PREDICTION UNITS THAT ARE TEMPORALLY COLLOCATED TO CURRENT PREDICTION UNIT ARE AVAILABLE
2510
WHEN NUMBER OF MOTION INFORMATION OF SPATIAL PREDICTION UNITS AND MOTION INFORMATION OF TEMPORAL PREDICTION UNITS IS LESS THAN PREDETERMINED NUMBER 'N', GENERATE ADDITIONAL CANDIDATE MOTION INFORMATION BY USING AVAILABLE MOTION INFORMATION OF SPATIAL PREDICTION UNITS AND MOTION INFORMATION OF TEMPORAL PREDICTION UNITS SUCH THAT TOTAL NUMBER OF PIECES OF CANDIDATE MOTION INFORMATION IS 'N'
2520
OBTAIN INDEX INFORMATION INDICATING MOTION INFORMATION OF ANY ONE OF 'N' PIECES OF CANDIDATE MOTION INFORMATION FROM BITSTREAM
2530
OBTAIN MOTION INFORMATION OF CURRENT PREDICTION UNIT BY USING MOTION INFORMATION INDICATED BY OBTAINED INDEX
2540
END