FIG. 1

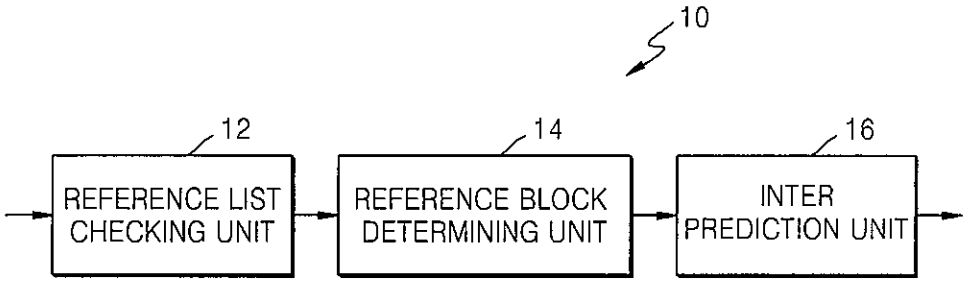

10
12
14
16
REFERENCE LIST CHECKING UNIT
REFERENCE BLOCK DETERMINING UNIT
INTER PREDICTION UNIT

FIG. 2

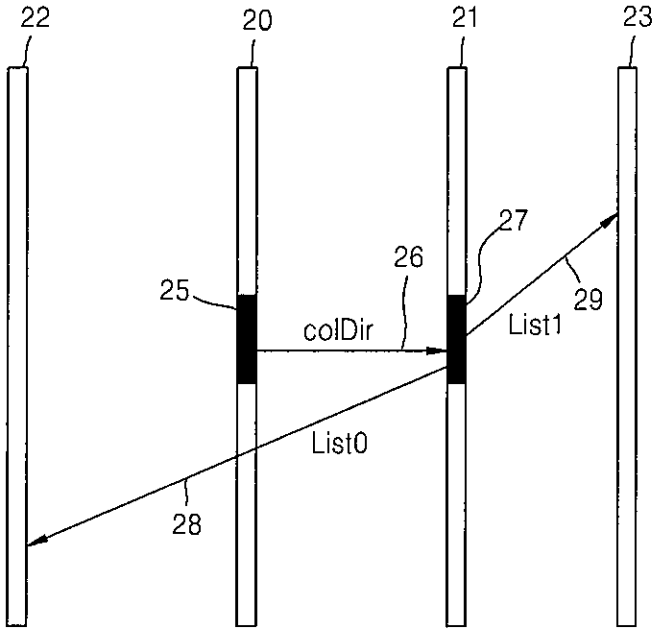

22
20
21
23
25
26
27
29
colDir
List1
List0
28

FIG. 3

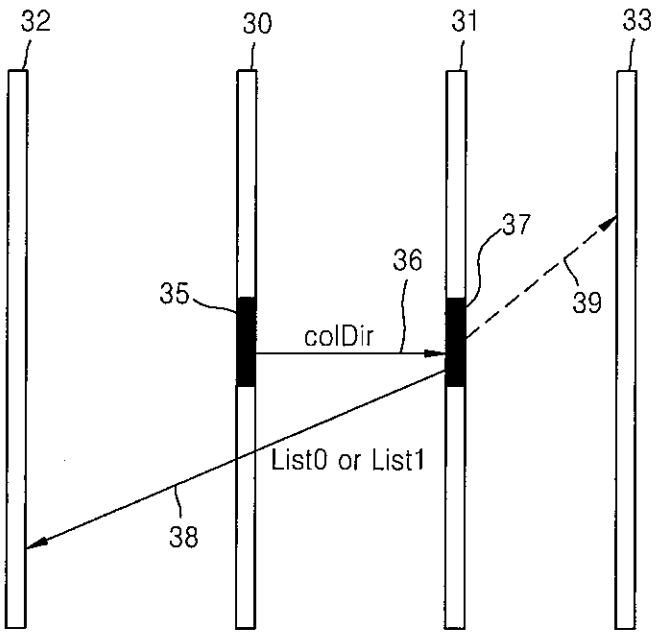

32
30
31
33
35
36
37
39
colDir
List0 or List1
38

FIG. 4

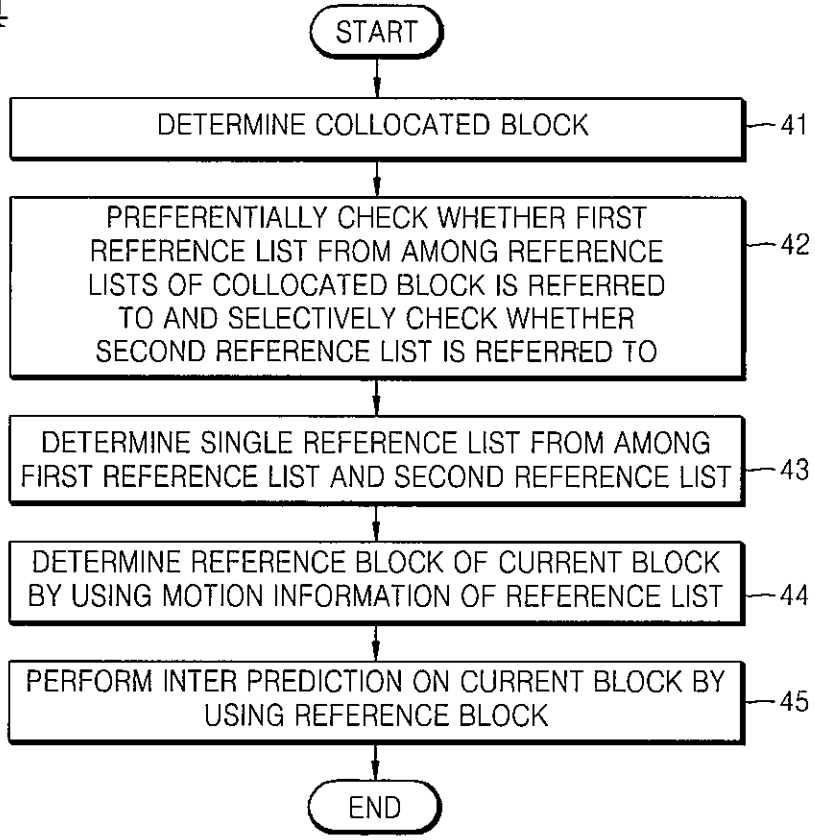

START
DETERMINE COLLOCATED BLOCK
41
PREFERENTIALLY CHECK WHETHER FIRST REFERENCE LIST FROM AMONG REFERENCE LISTS OF COLLOCATED BLOCK IS REFERRED TO AND SELECTIVELY CHECK WHETHER SECOND REFERENCE LIST IS REFERRED TO
42
DETERMINE SINGLE REFERENCE LIST FROM AMONG FIRST REFERENCE LIST AND SECOND REFERENCE LIST
43
DETERMINE REFERENCE BLOCK OF CURRENT BLOCK BY USING MOTION INFORMATION OF REFERENCE LIST
44
PERFORM INTER PREDICTION ON CURRENT BLOCK BY USING REFERENCE BLOCK
45
END

FIG. 5

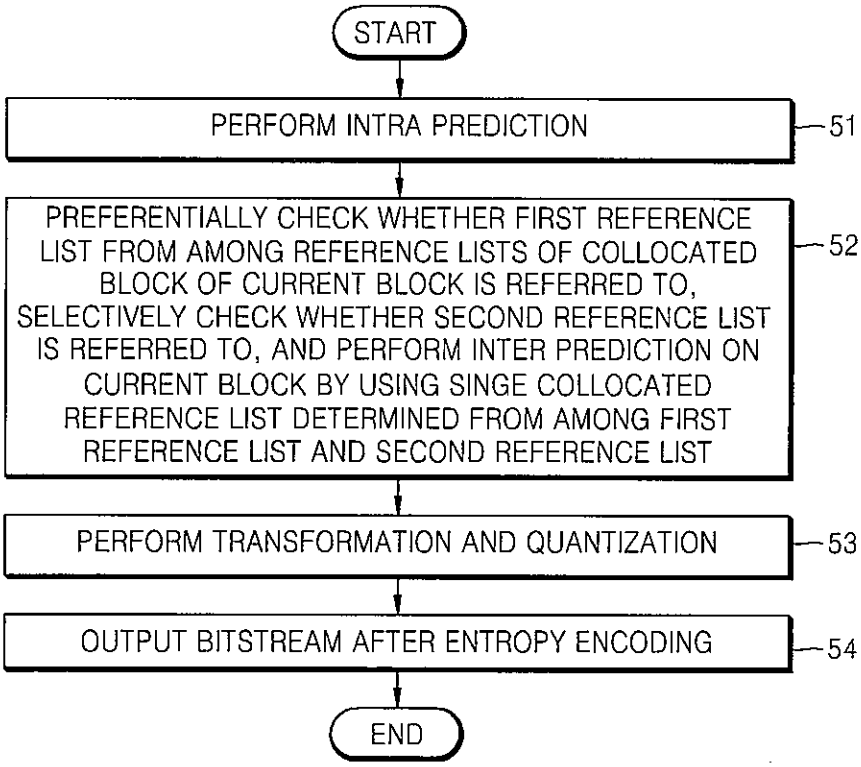

START
PERFORM INTRA PREDICTION
51
PREFERENTIALLY CHECK WHETHER FIRST REFERENCE LIST FROM AMONG REFERENCE LISTS OF COLLOCATED BLOCK OF CURRENT BLOCK IS REFERRED TO, SELECTIVELY CHECK WHETHER SECOND REFERENCE LIST IS REFERRED TO, AND PERFORM INTER PREDICTION ON CURRENT BLOCK BY USING SINGE COLLOCATED REFERENCE LIST DETERMINED FROM AMONG FIRST REFERENCE LIST AND SECOND REFERENCE LIST
52
PERFORM TRANSFORMATION AND QUANTIZATION
53
OUTPUT BITSTREAM AFTER ENTROPY ENCODING
54
END

FIG. 6

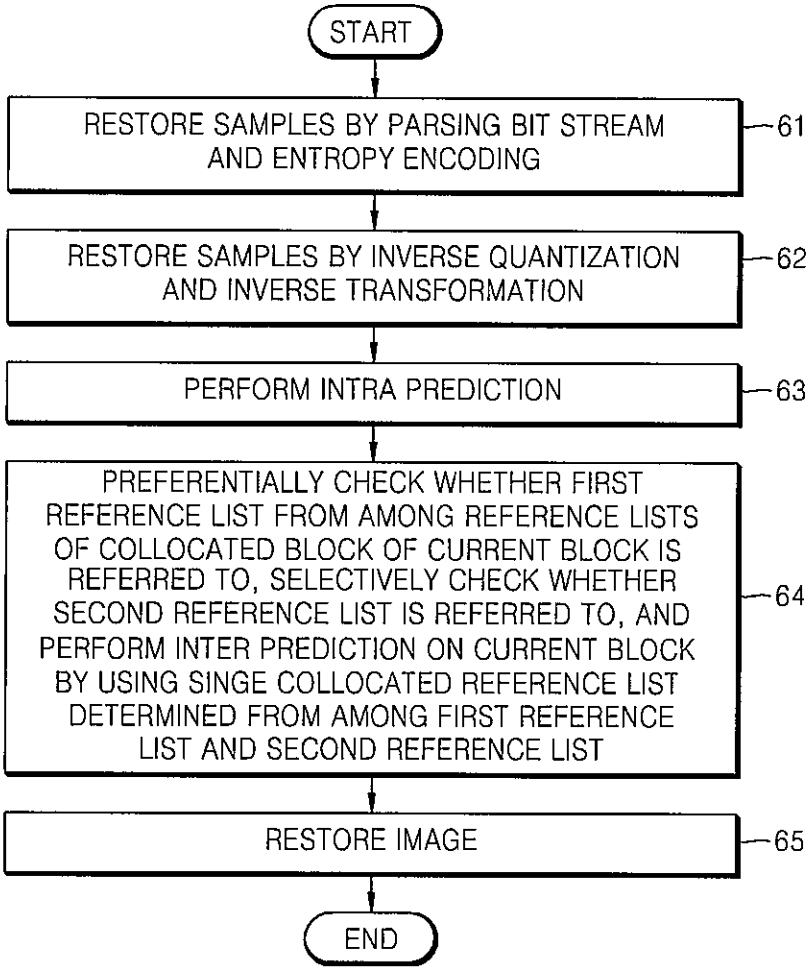

START
RESTORE SAMPLES BY PARSING BIT STREAM AND ENTROPY ENCODING
61
RESTORE SAMPLES BY INVERSE QUANTIZATION AND INVERSE TRANSFORMATION
62
PERFORM INTRA PREDICTION
63
PREFERENTIALLY CHECK WHETHER FIRST REFERENCE LIST FROM AMONG REFERENCE LISTS OF COLLOCATED BLOCK OF CURRENT BLOCK IS REFERRED TO, SELECTIVELY CHECK WHETHER SECOND REFERENCE LIST IS REFERRED TO, AND PERFORM INTER PREDICTION ON CURRENT BLOCK BY USING SINGE COLLOCATED REFERENCE LIST DETERMINED FROM AMONG FIRST REFERENCE LIST AND SECOND REFERENCE LIST
64
RESTORE IMAGE
65
END

FIG. 7

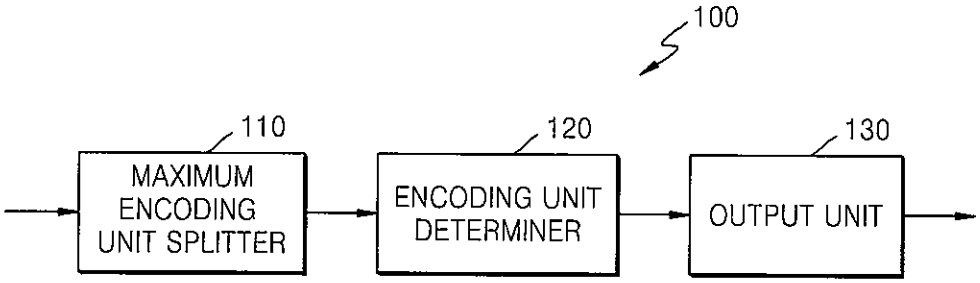

100
110
MAXIMUM ENCODING UNIT SPLITTER
120
ENCODING UNIT DETERMINER
130
OUTPUT UNIT

FIG. 8

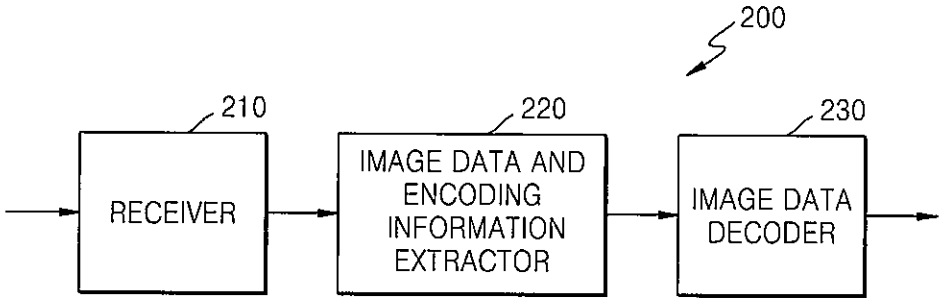

200
210
RECEIVER
220
IMAGE DATA AND ENCODING INFORMATION EXTRACTOR
230
IMAGE DATA DECODER

FIG. 9

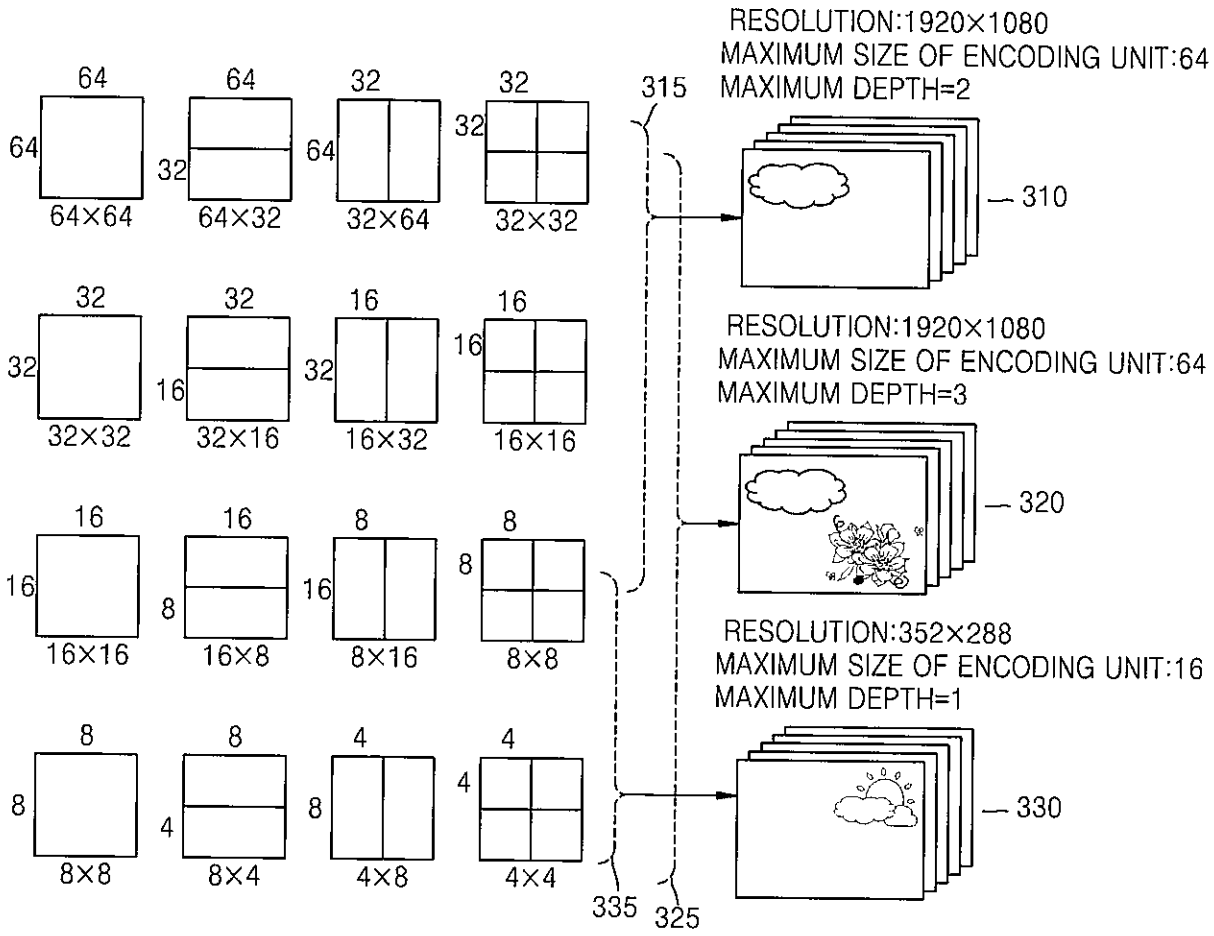

RESOLUTION:1920×1080
MAXIMUM SIZE OF ENCODING UNIT:64
MAXIMUM DEPTH=2
315
64
64
64×64
64
32
64×32
32
64
32×64
32
32
32×32
310
32
32
32×32
32
16
32×16
16
32
16×32
16
16
16×16
RESOLUTION:1920×1080
MAXIMUM SIZE OF ENCODING UNIT:64
MAXIMUM DEPTH=3
320
16
16
16×16
16
8
16×8
8
16
8×16
8
8
8×8
RESOLUTION:352×288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

FIG. 10

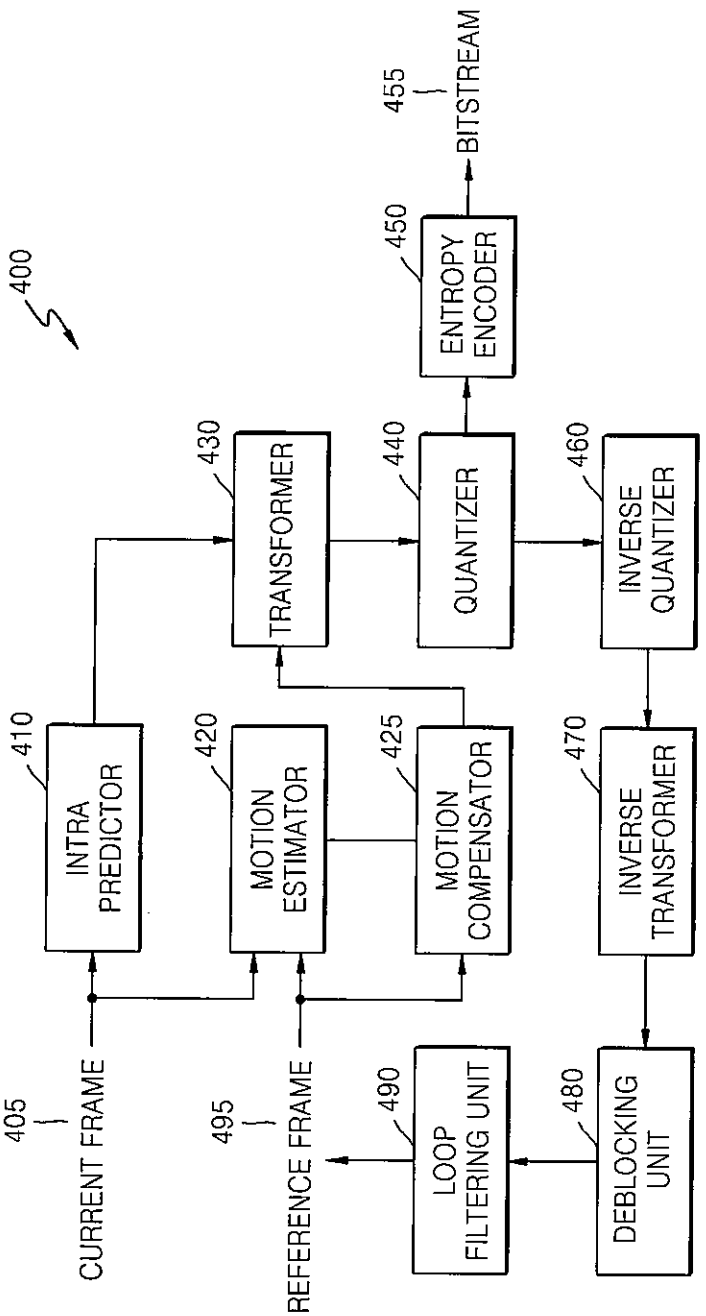

400
405
CURRENT FRAME
410
INTRA PREDICTOR
420
MOTION ESTIMATOR
425
MOTION COMPENSATOR
430
TRANSFORMER
440
QUANTIZER
450
ENTROPY ENCODER
455
BITSTREAM
460
INVERSE QUANTIZER
470
INVERSE TRANSFORMER
480
DEBLOCKING UNIT
490
LOOP FILTERING UNIT
495
REFERENCE FRAME

FIG. 11

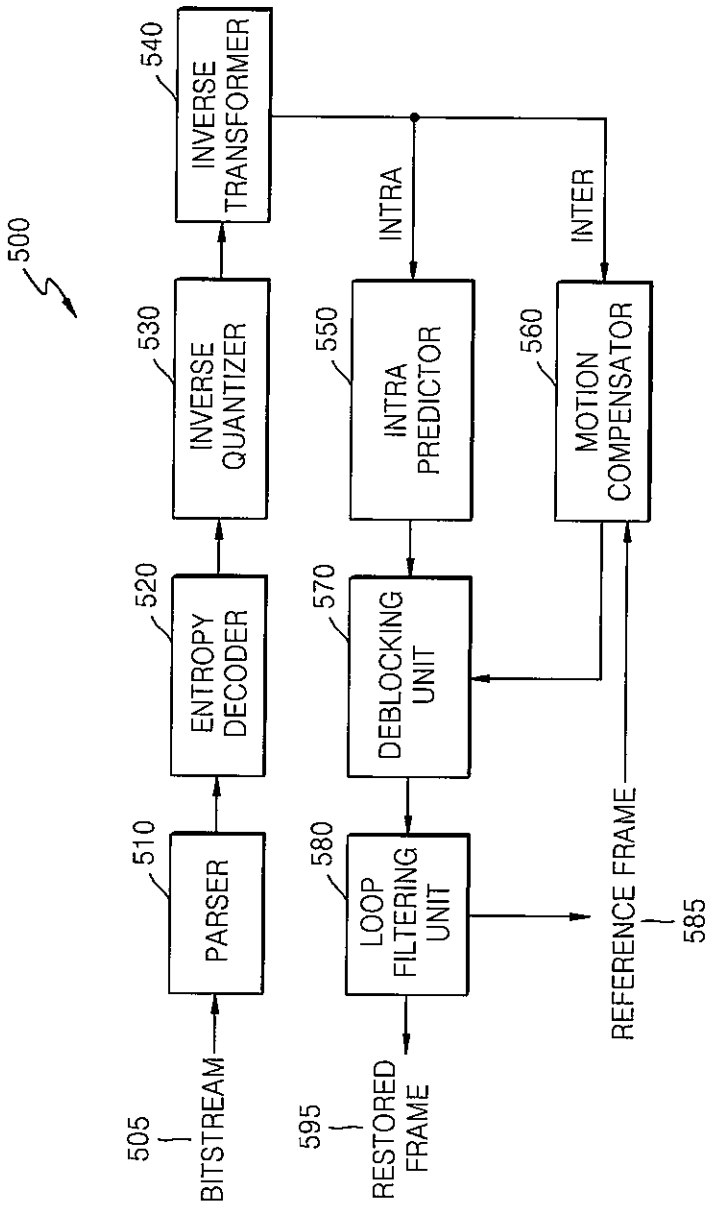

500
505
BITSTREAM
510
PARSER
520
ENTROPY DECODER
530
INVERSE QUANTIZER
540
INVERSE TRANSFORMER
INTRA
550
INTRA PREDICTOR
INTER
560
MOTION COMPENSATOR
570
DEBLOCKING UNIT
580
LOOP FILTERING UNIT
595
RESTORED FRAME
REFERENCE FRAME
585

FIG. 12

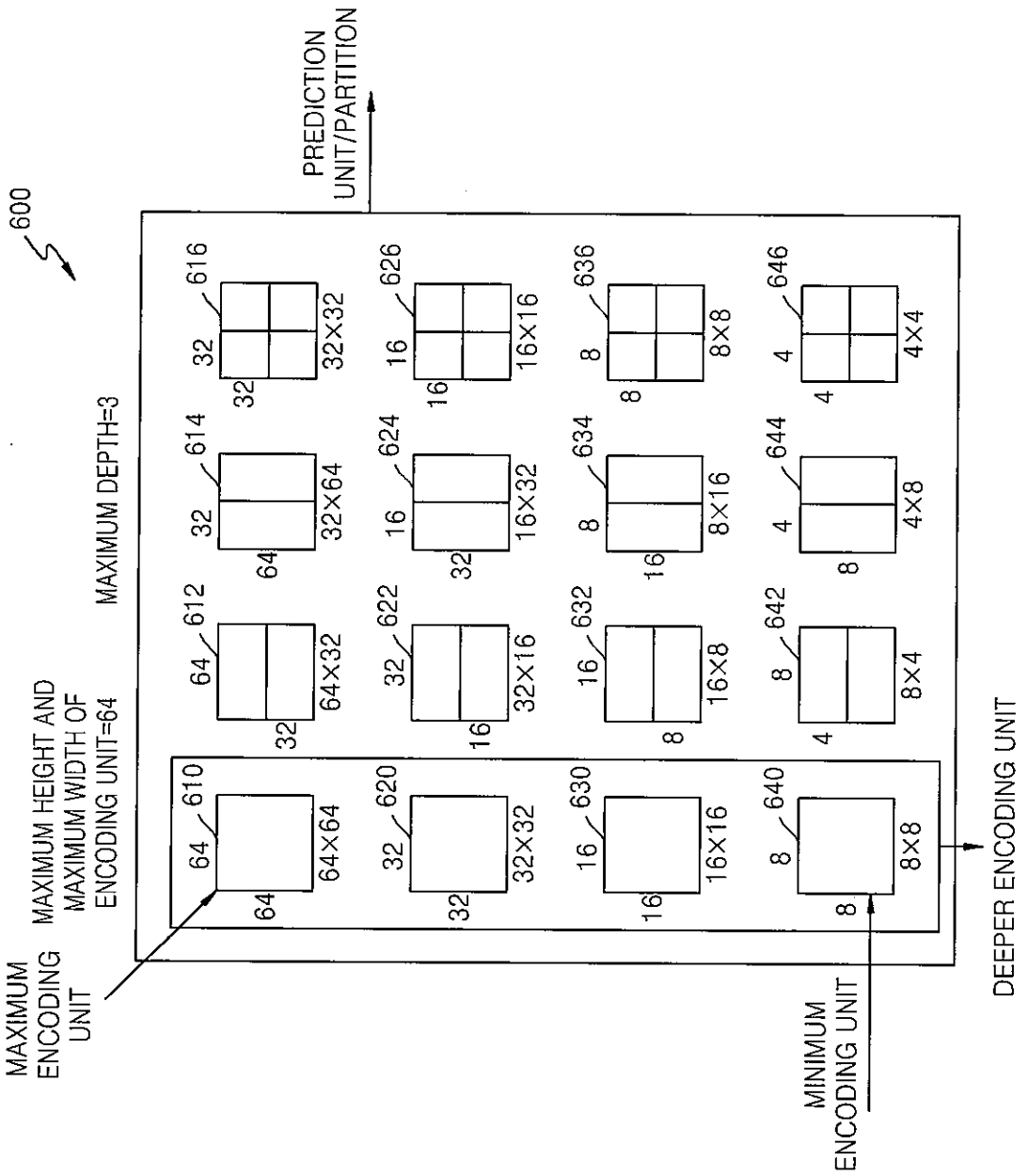

600
MAXIMUM ENCODING UNIT
MAXIMUM HEIGHT AND MAXIMUM WIDTH OF ENCODING UNIT=64
MAXIMUM DEPTH=3
PREDICTION UNIT/PARTITION
DEEPER ENCODING UNIT
MINIMUM ENCODING UNIT
610
64
64
64X64
620
32
32
32X32
630
16
16
16X16
640
8
8
8X8
612
64
32
64X32
622
32
16
32X16
632
16
8
16X8
642
8
4
8X4
614
32
64
32X64
624
16
32
16X32
634
8
16
8X16
644
4
8
4X8
616
32
32
32X32
626
16
16
16X16
636
8
8
8X8
646
4
4
4X4

FIG. 13

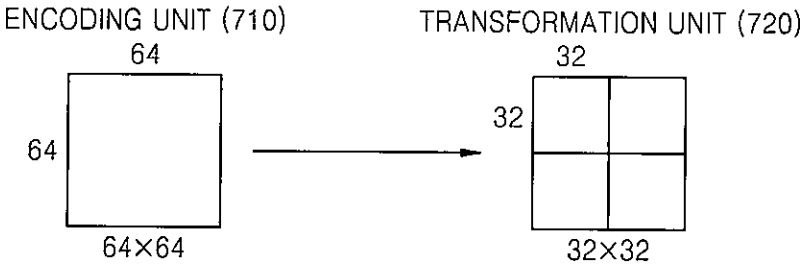

ENCODING UNIT (710)
64
64
64×64
TRANSFORMATION UNIT (720)
32
32
32×32

FIG. 14

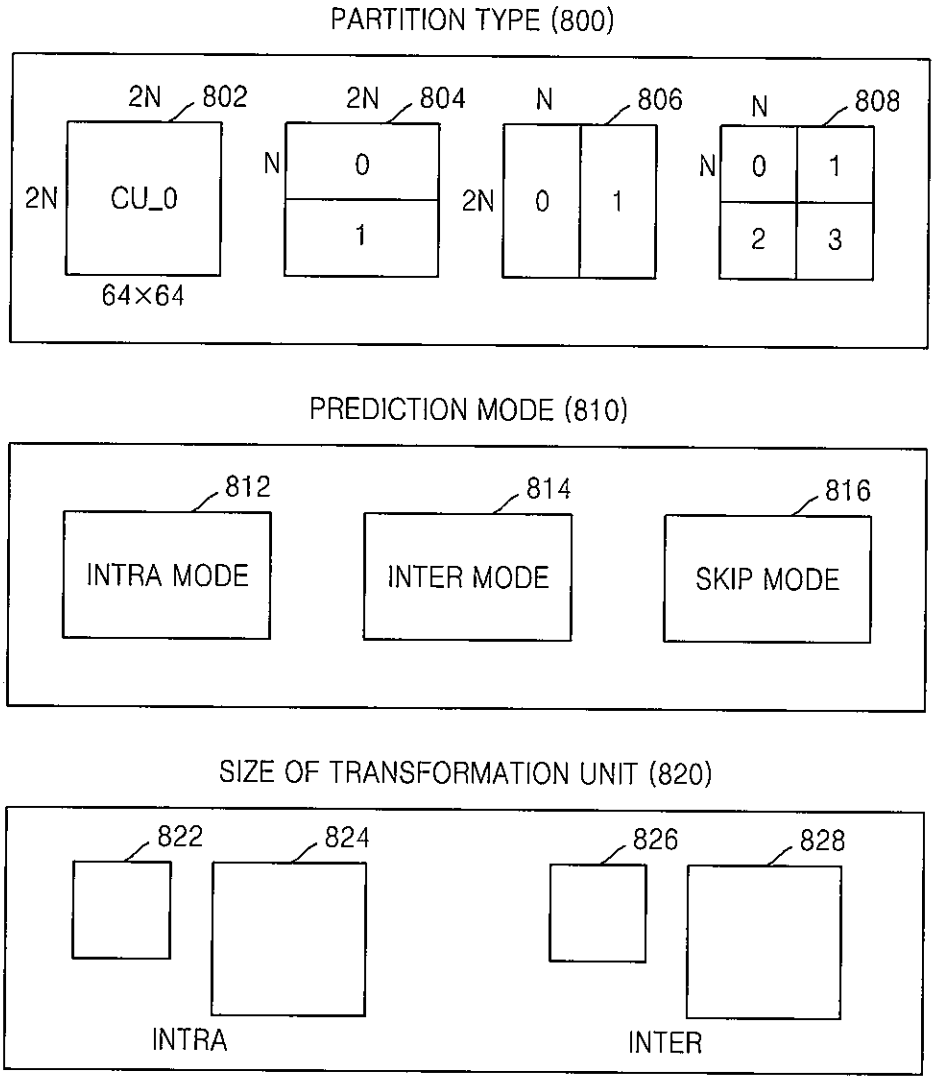

PARTITION TYPE (800)
2N
802
2N
CU_0
64×64
2N
804
N
0
1
N
806
2N
0
1
N
808
N
0
1
2
3
PREDICTION MODE (810)
812
INTRA MODE
814
INTER MODE
816
SKIP MODE
SIZE OF TRANSFORMATION UNIT (820)
822
824
826
828
INTRA
INTER

FIG. 15

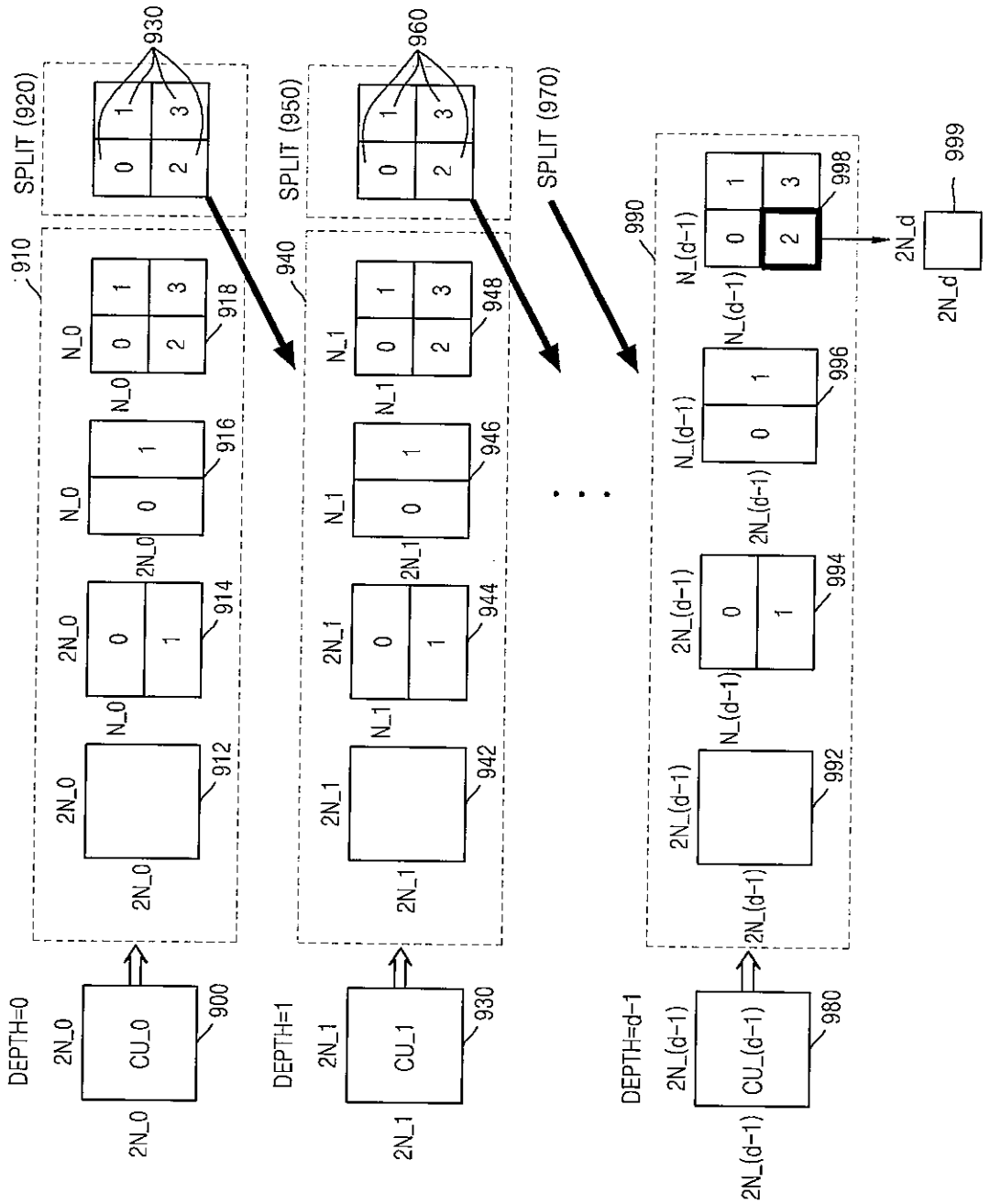
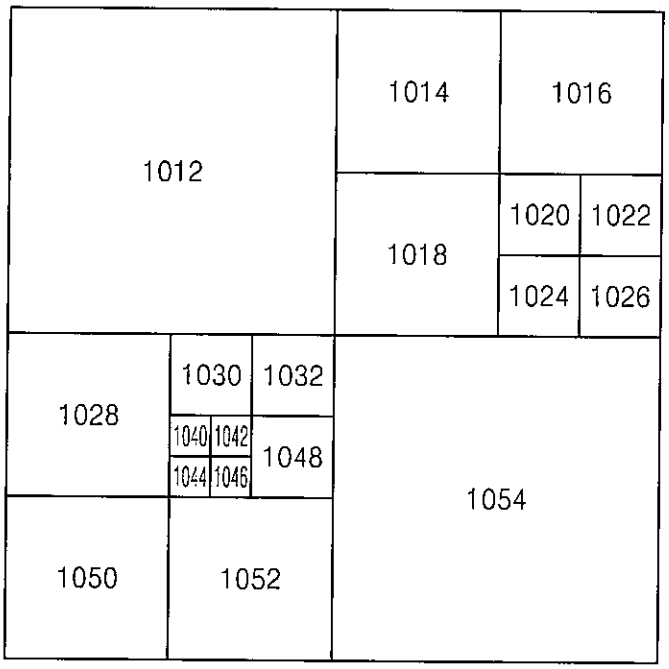

DEPTH=0
DEPTH=1
DEPTH=d-1
CU_0
CU_1
CU_(d-1)
900
930
980
SPLIT (920)
SPLIT (950)
SPLIT (970)
910
940
990
912
914
916
918
942
944
946
948
992
994
996
998
999
930
960
2N_0
2N_1
2N_(d-1)
N_0
N_1
N_(d-1)
2N_d

FIG. 16



ENCODING UNIT (1010)

FIG. 17

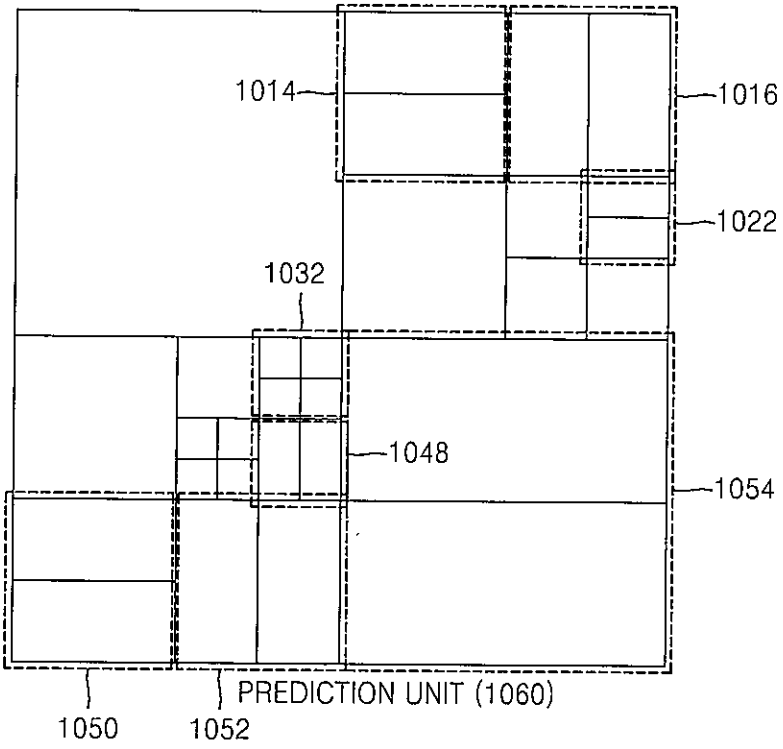


FIG. 18

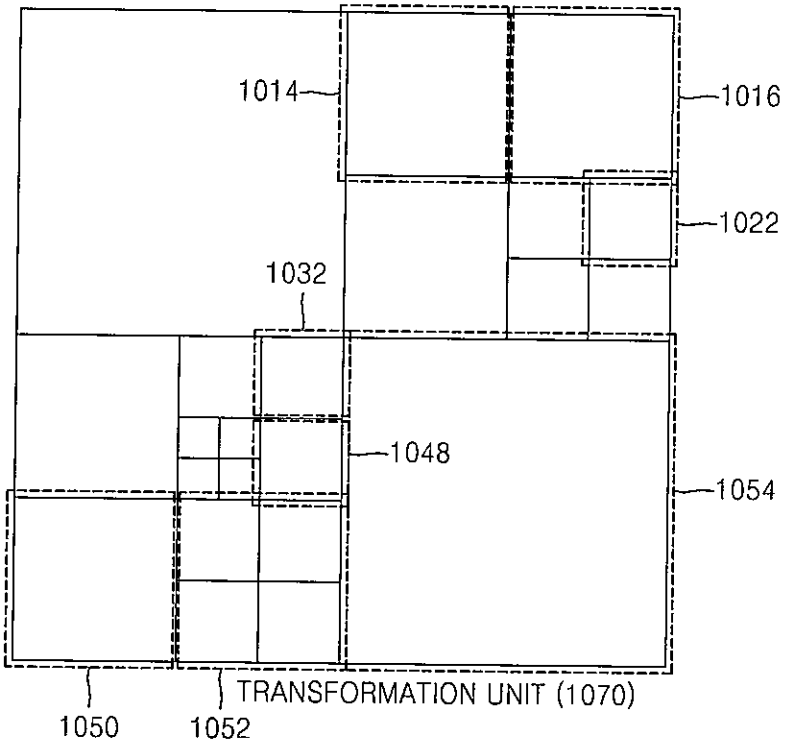
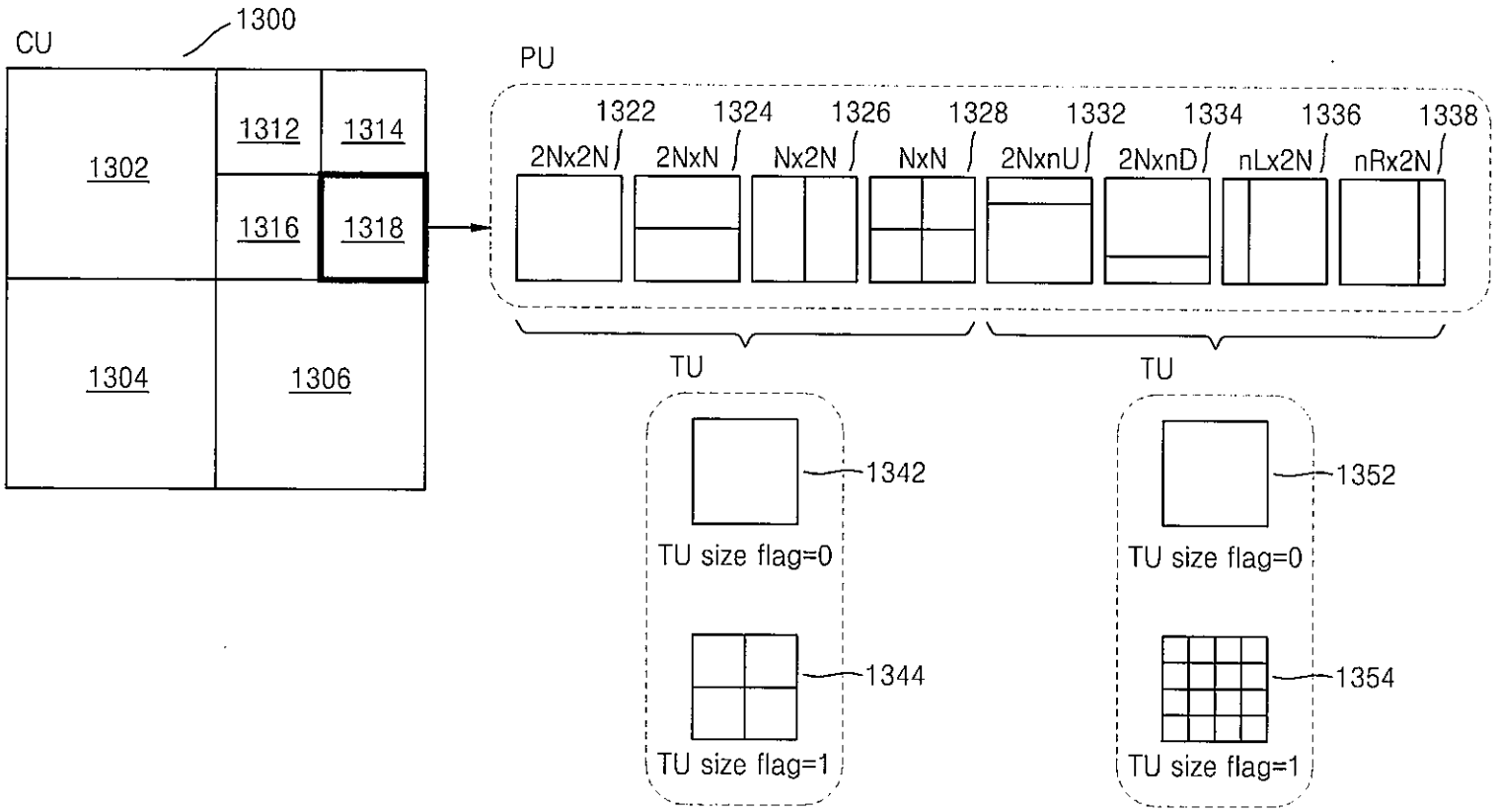

1014
1016
1022
1032
1048
1054
TRANSFORMATION UNIT (1070)
1050
1052

FIG. 19


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