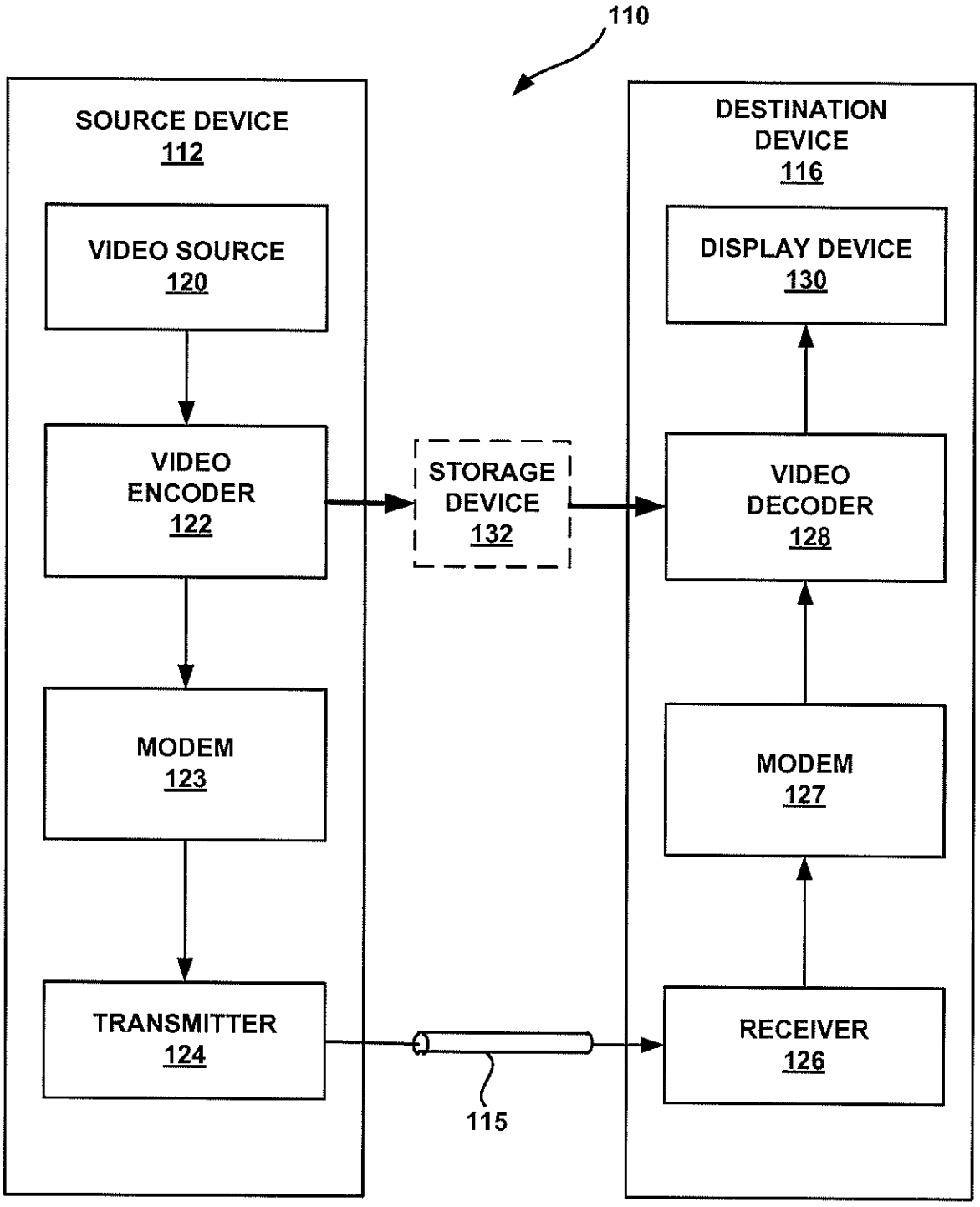

110
SOURCE DEVICE
112
VIDEO SOURCE
120
VIDEO
ENCODER
122
MODEM
123
TRANSMITTER
124
STORAGE
DEVICE
132
115
DESTINATION
DEVICE
116
DISPLAY DEVICE
130
VIDEO
DECODER
128
MODEM
127
RECEIVER
126

FIG. 1

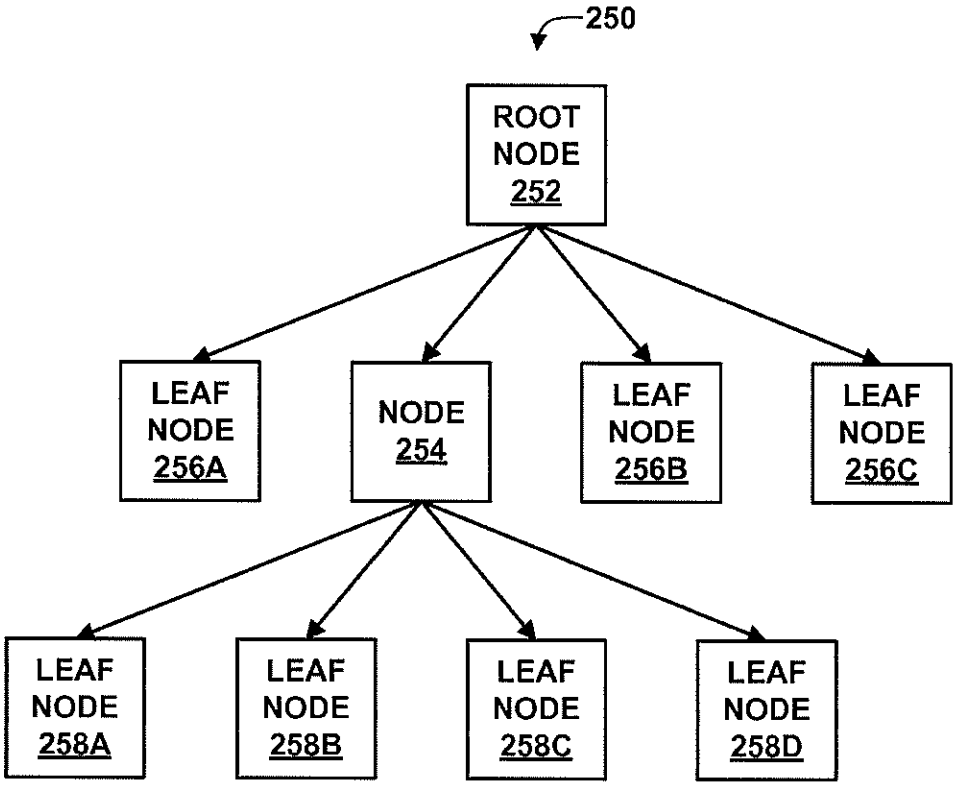

250
ROOT NODE 252
LEAF NODE 256A
NODE 254
LEAF NODE 256B
LEAF NODE 256C
LEAF NODE 258A
LEAF NODE 258B
LEAF NODE 258C
LEAF NODE 258D

FIG. 2A

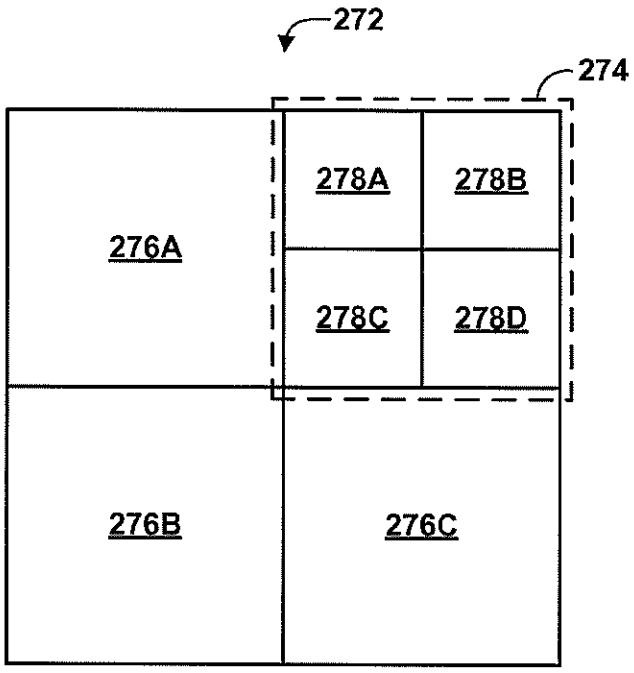

272
274
276A
278A
278B
278C
278D
276B
276C

FIG. 2B

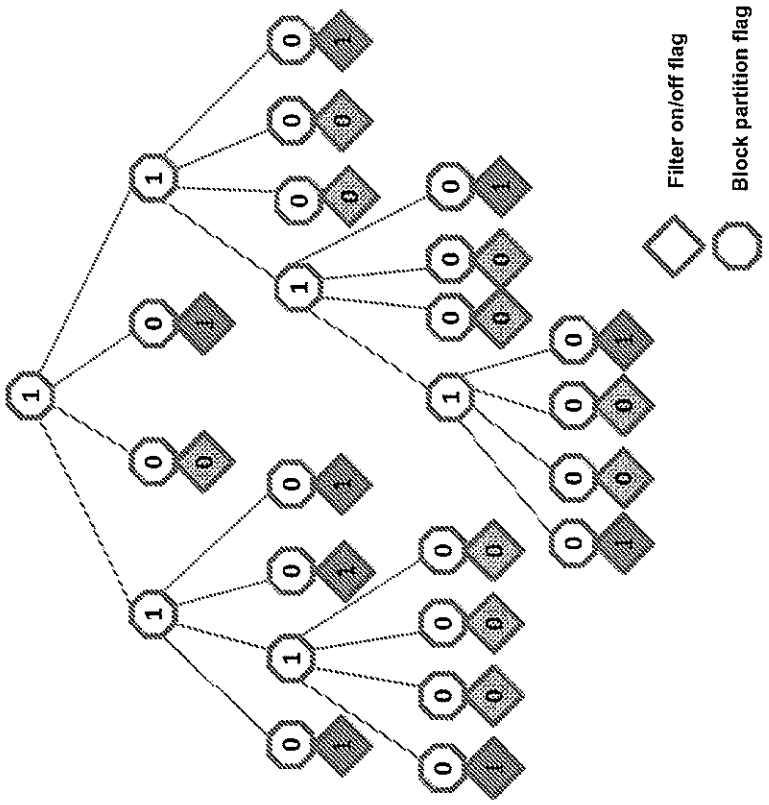


FIG. 2D

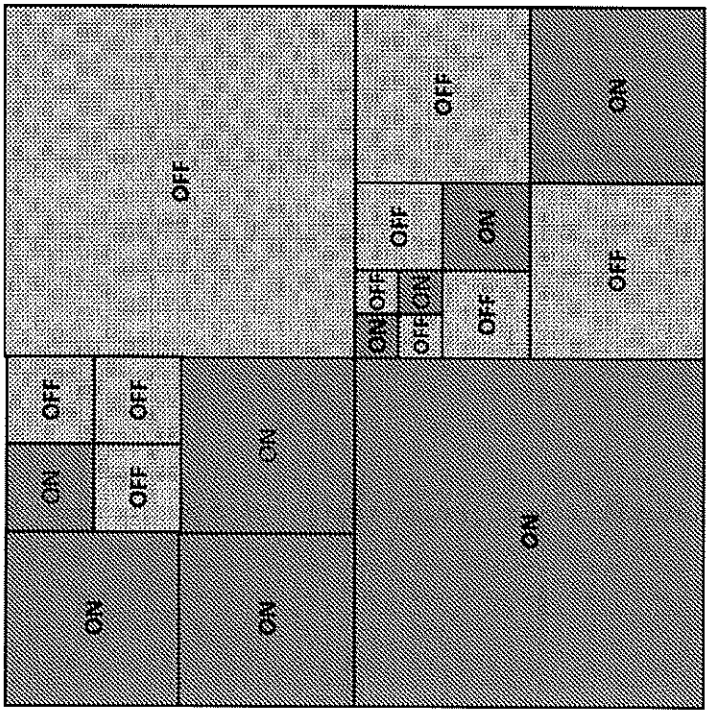


FIG. 2C

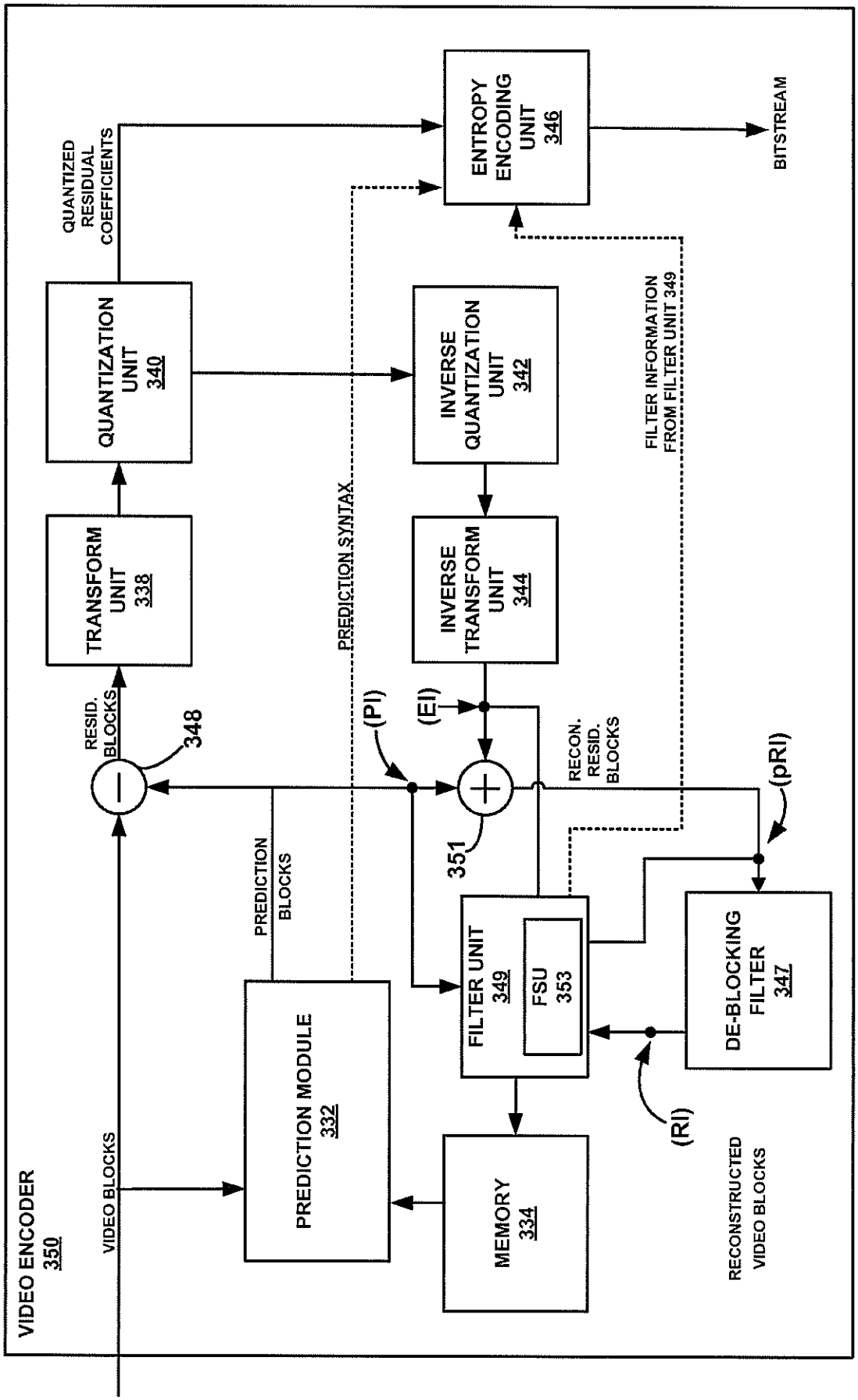

VIDEO ENCODER
350
VIDEO BLOCKS
PREDICTION MODULE
332
MEMORY
334
FILTER UNIT
349
FSU
353
DE-BLOCKING
FILTER
347
(RI)
RECONSTRUCTED
VIDEO BLOCKS
(pRI)
RECON.
RESID.
BLOCKS
351
(EI)
(PI)
PREDICTION
BLOCKS
RESID.
BLOCKS
348
TRANSFORM
UNIT
338
QUANTIZATION
UNIT
340
INVERSE
TRANSFORM
UNIT
344
INVERSE
QUANTIZATION
UNIT
342
ENTROPY
ENCODING
UNIT
346
BITSTREAM
QUANTIZED
RESIDUAL
COEFFICIENTS
PREDICTION SYNTAX
FILTER INFORMATION
FROM FILTER UNIT 349

FIG. 3

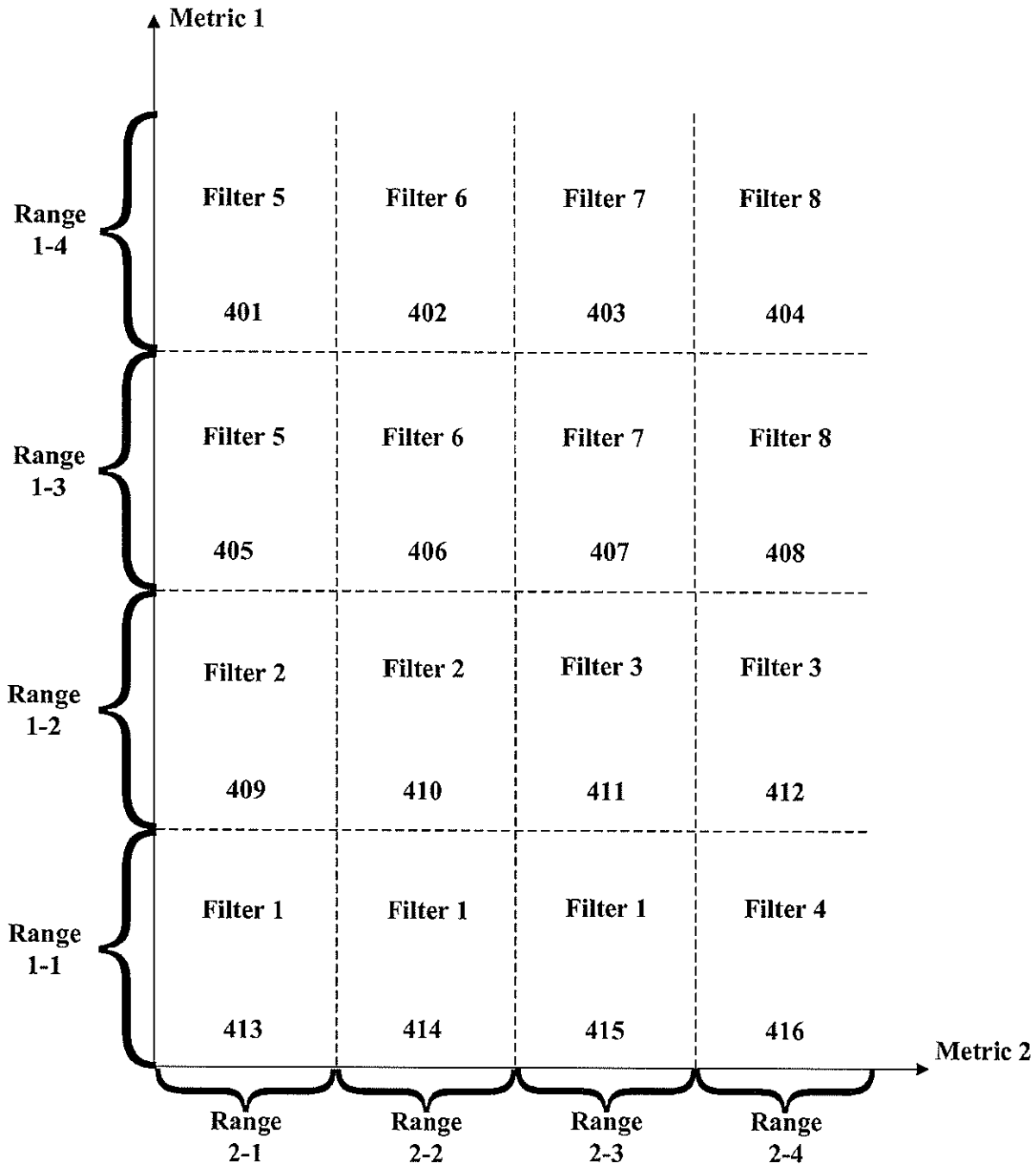

Metric 1
Range 1-4
Filter 5
401
Filter 6
402
Filter 7
403
Filter 8
404
Range 1-3
Filter 5
405
Filter 6
406
Filter 7
407
Filter 8
408
Range 1-2
Filter 2
409
Filter 2
410
Filter 3
411
Filter 3
412
Range 1-1
Filter 1
413
Filter 1
414
Filter 1
415
Filter 4
416
Metric 2
Range 2-1
Range 2-2
Range 2-3
Range 2-4

FIG. 4A

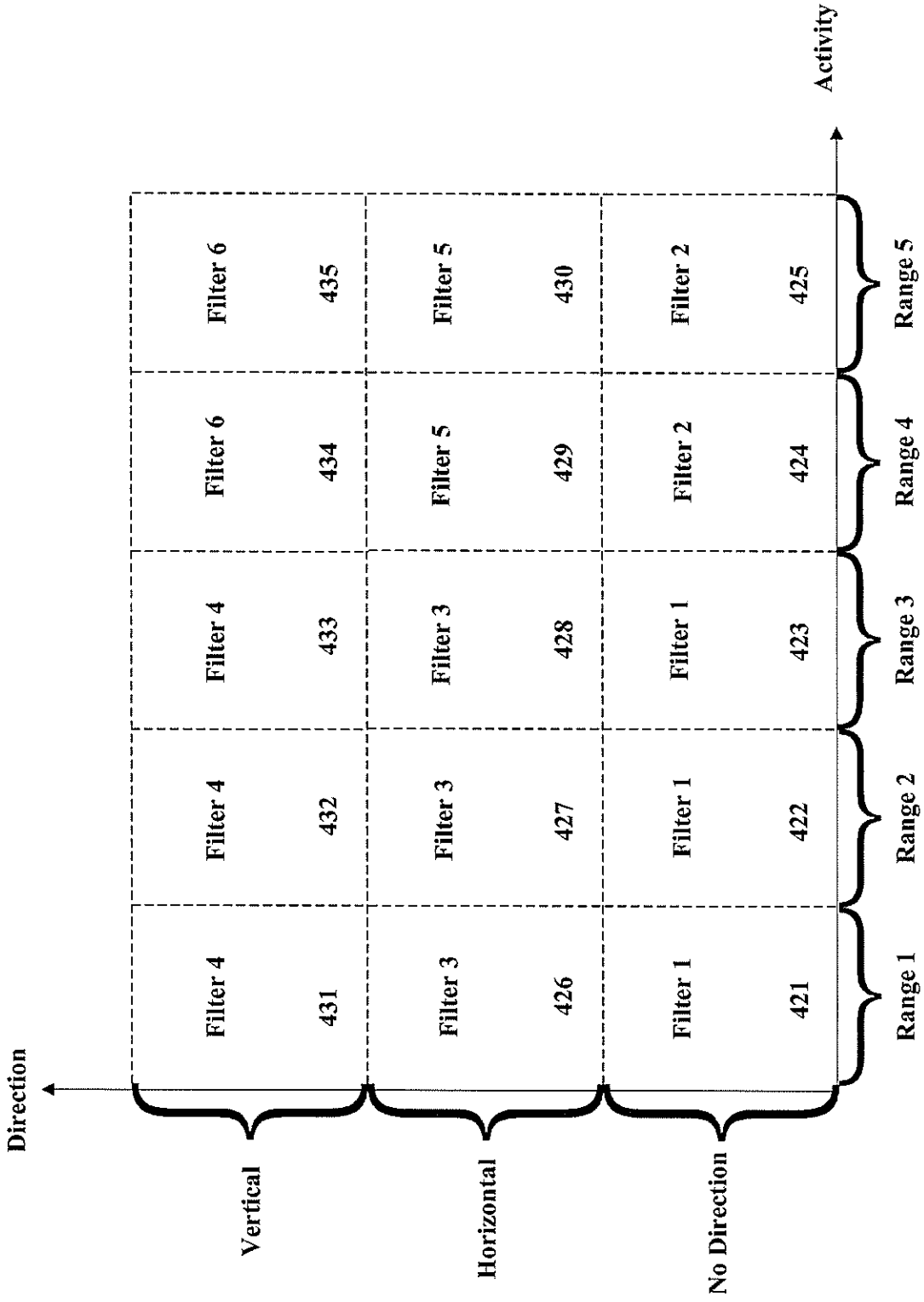

Direction
Activity
Vertical
Horizontal
No Direction
Filter 4
431
Filter 4
432
Filter 4
433
Filter 6
434
Filter 6
435
Filter 3
426
Filter 3
427
Filter 3
428
Filter 5
429
Filter 5
430
Filter 1
421
Filter 1
422
Filter 1
423
Filter 2
424
Filter 2
425
Range 1
Range 2
Range 3
Range 4
Range 5

FIG. 4B

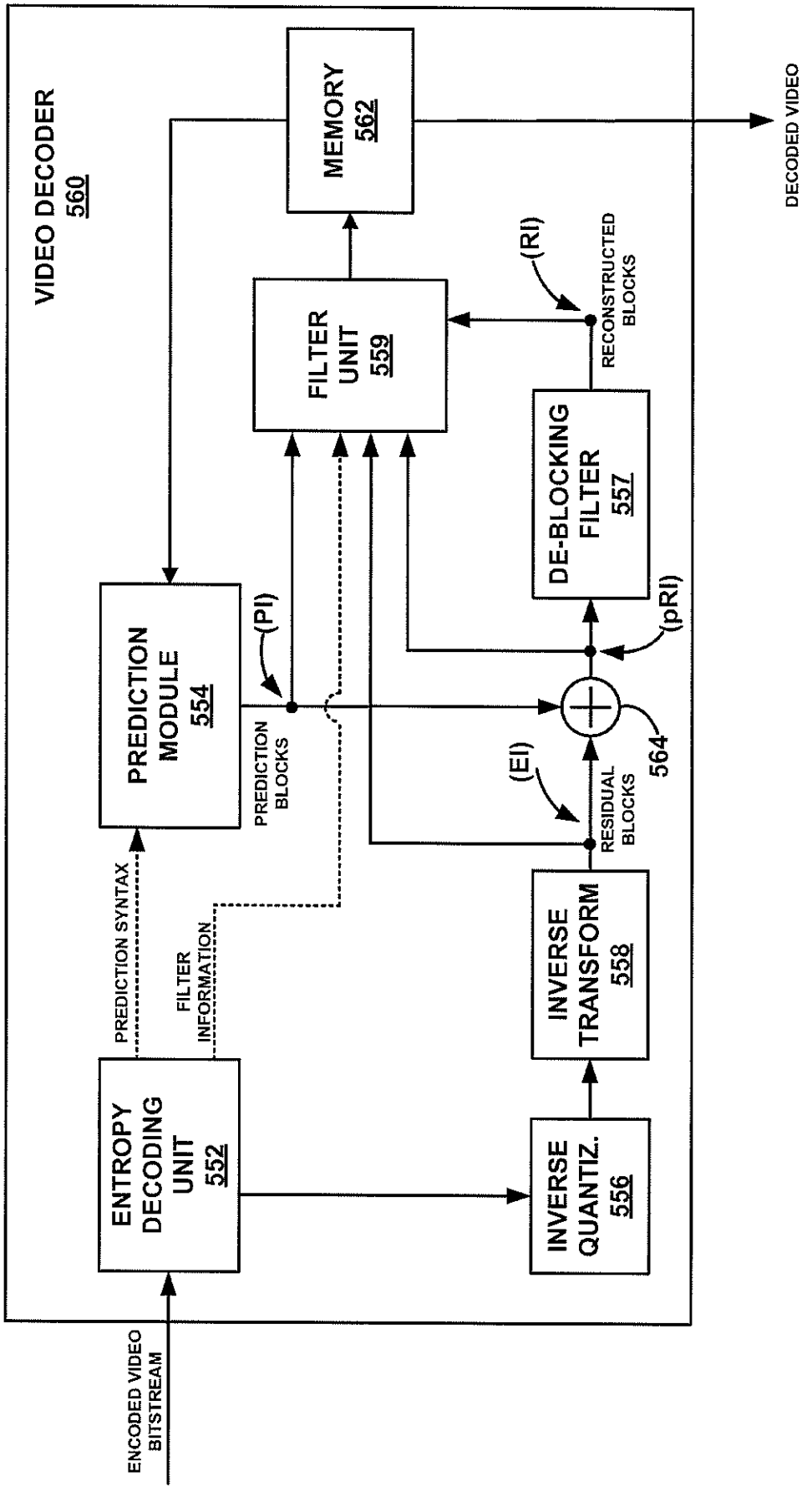

VIDEO DECODER
560
MEMORY
562
DECODED VIDEO
FILTER
UNIT
559
(RI)
RECONSTRUCTED
BLOCKS
DE-BLOCKING
FILTER
557
(pRI)
PREDICTION
MODULE
554
(PI)
PREDICTION
BLOCKS
564
(EI)
RESIDUAL
BLOCKS
INVERSE
TRANSFORM
558
INVERSE
QUANTIZ.
556
ENTROPY
DECODING
UNIT
552
PREDICTION SYNTAX
FILTER
INFORMATION
ENCODED VIDEO
BITSTREAM

FIG. 5

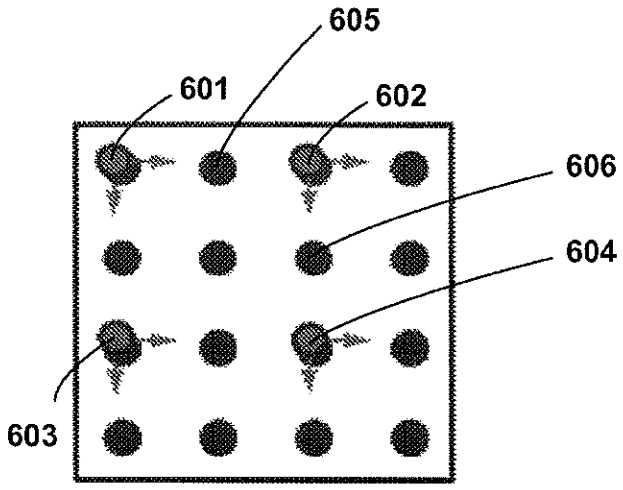


FIG. 6A

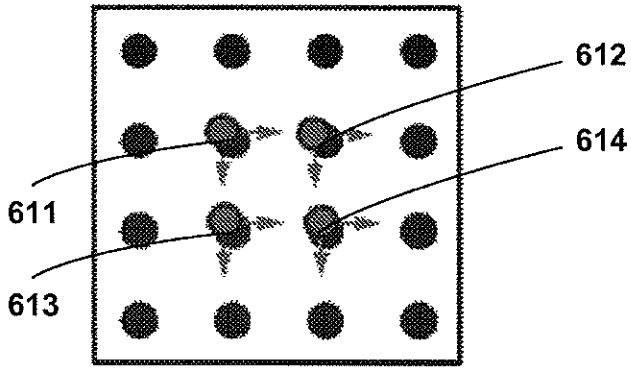


FIG. 6B

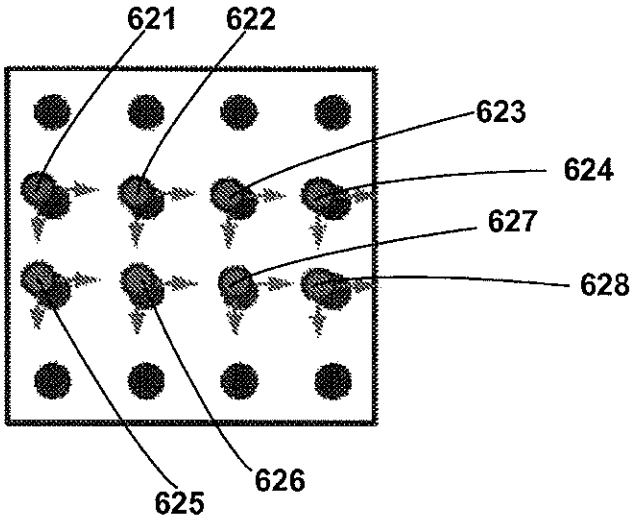


FIG. 6C

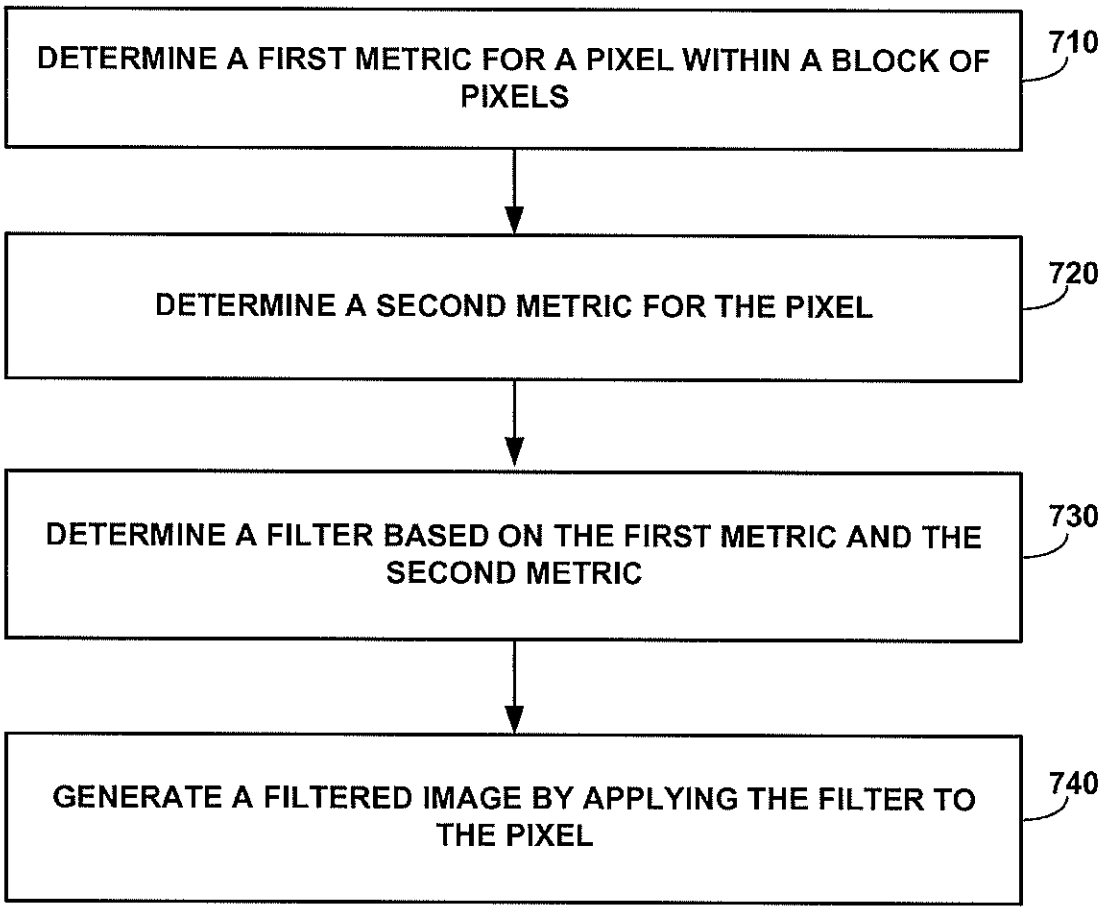

DETERMINE A FIRST METRIC FOR A PIXEL WITHIN A BLOCK OF PIXELS
710
DETERMINE A SECOND METRIC FOR THE PIXEL
720
DETERMINE A FILTER BASED ON THE FIRST METRIC AND THE SECOND METRIC
730
GENERATE A FILTERED IMAGE BY APPLYING THE FILTER TO THE PIXEL
740

FIG. 7

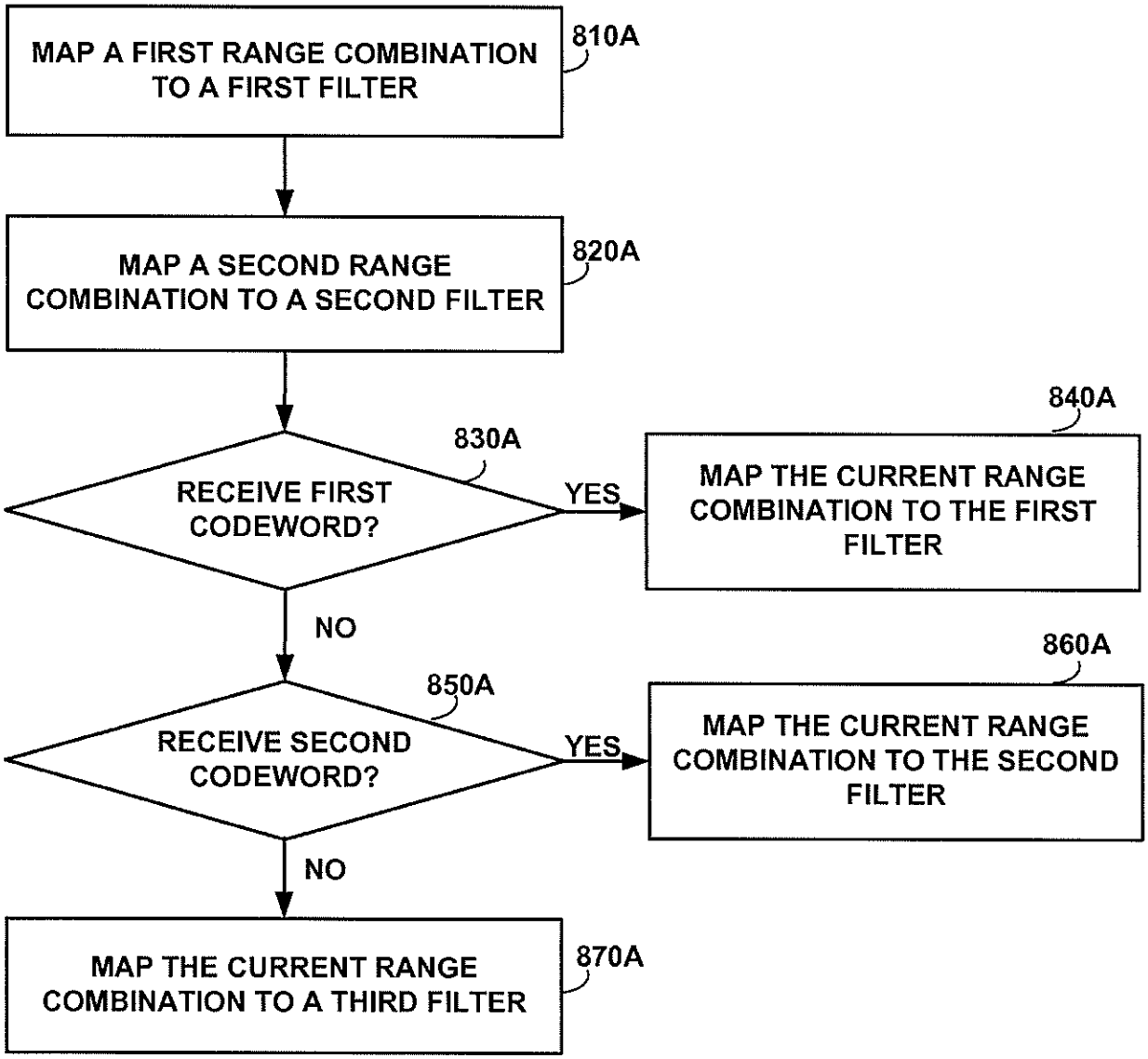

MAP A FIRST RANGE COMBINATION TO A FIRST FILTER
810A
MAP A SECOND RANGE COMBINATION TO A SECOND FILTER
820A
RECEIVE FIRST CODEWORD?
830A
YES
MAP THE CURRENT RANGE COMBINATION TO THE FIRST FILTER
840A
NO
RECEIVE SECOND CODEWORD?
850A
YES
MAP THE CURRENT RANGE COMBINATION TO THE SECOND FILTER
860A
NO
MAP THE CURRENT RANGE COMBINATION TO A THIRD FILTER
870A

FIG. 8A

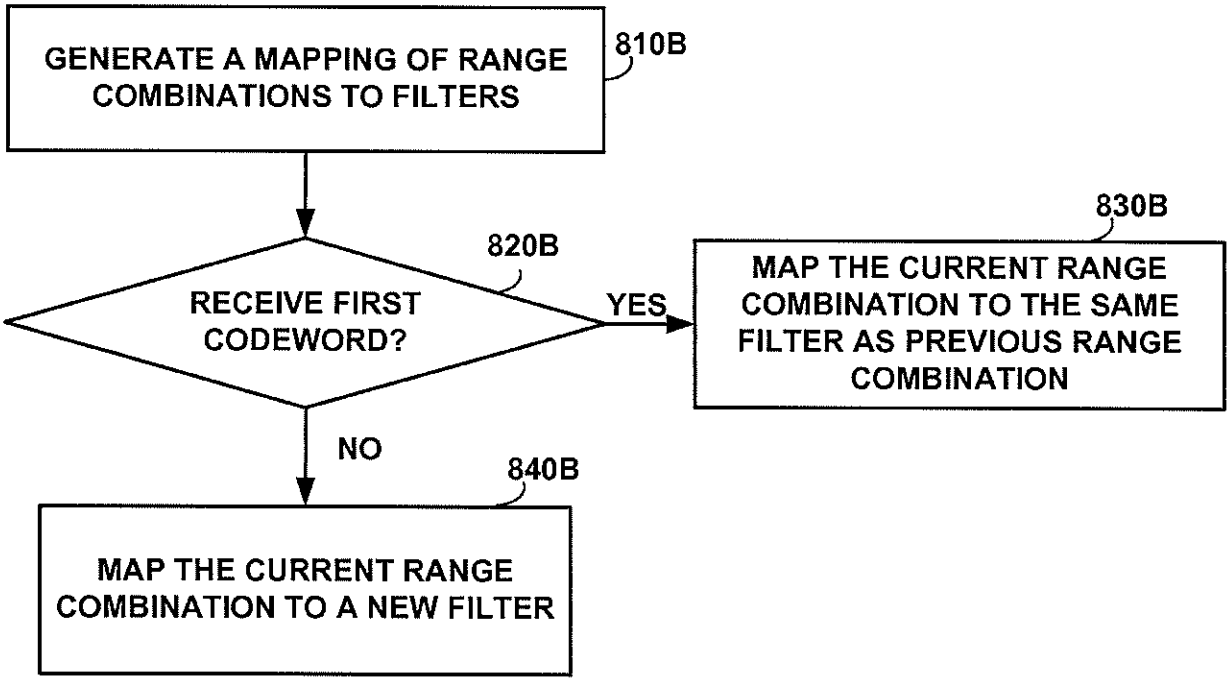

GENERATE A MAPPING OF RANGE COMBINATIONS TO FILTERS
810B
RECEIVE FIRST CODEWORD?
820B
YES
MAP THE CURRENT RANGE COMBINATION TO THE SAME FILTER AS PREVIOUS RANGE COMBINATION
830B
NO
MAP THE CURRENT RANGE COMBINATION TO A NEW FILTER
840B

FIG. 8B

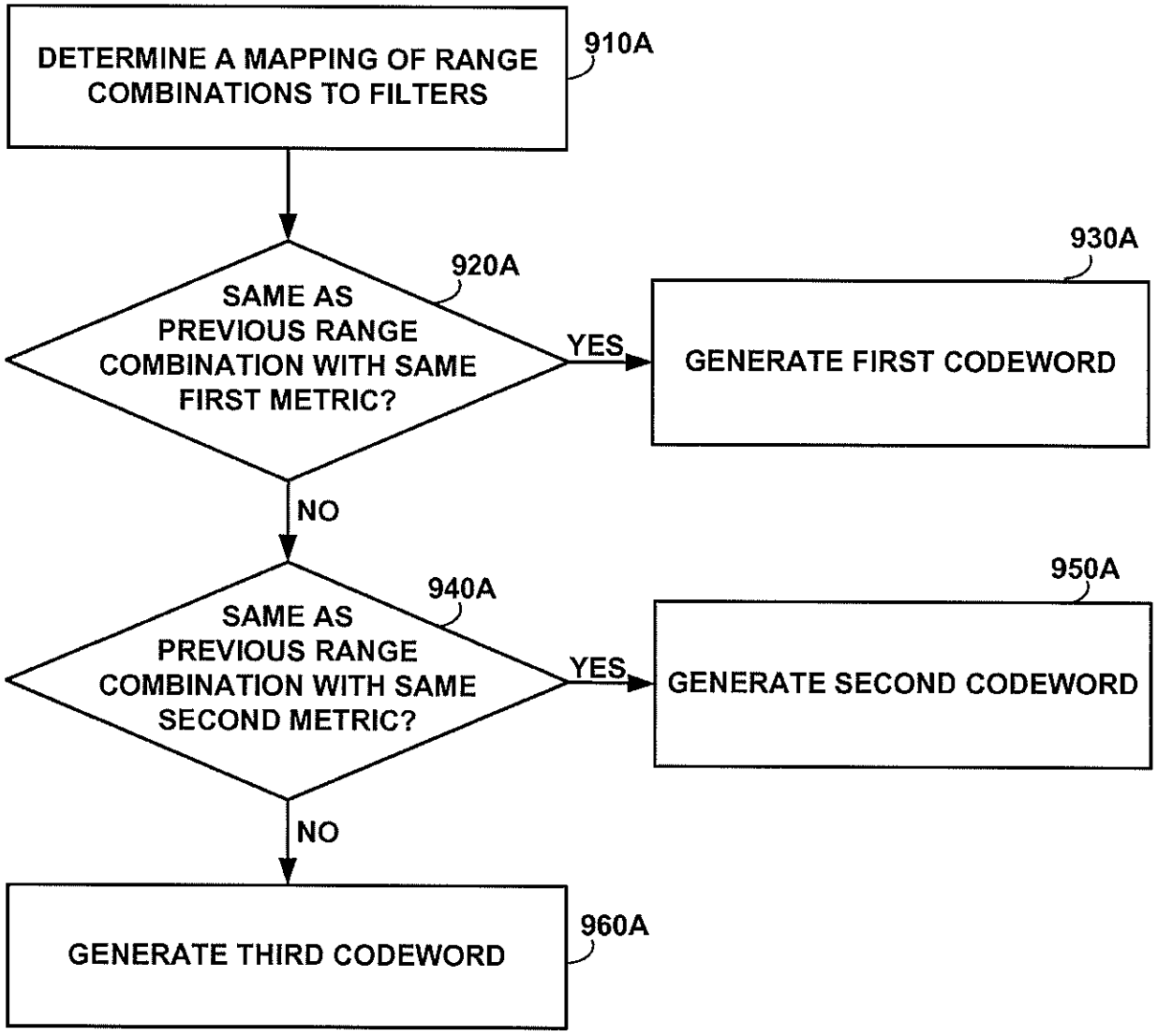

DETERMINE A MAPPING OF RANGE COMBINATIONS TO FILTERS
910A
SAME AS PREVIOUS RANGE COMBINATION WITH SAME FIRST METRIC?
920A
YES
GENERATE FIRST CODEWORD
930A
NO
SAME AS PREVIOUS RANGE COMBINATION WITH SAME SECOND METRIC?
940A
YES
GENERATE SECOND CODEWORD
950A
NO
GENERATE THIRD CODEWORD
960A

FIG. 9A

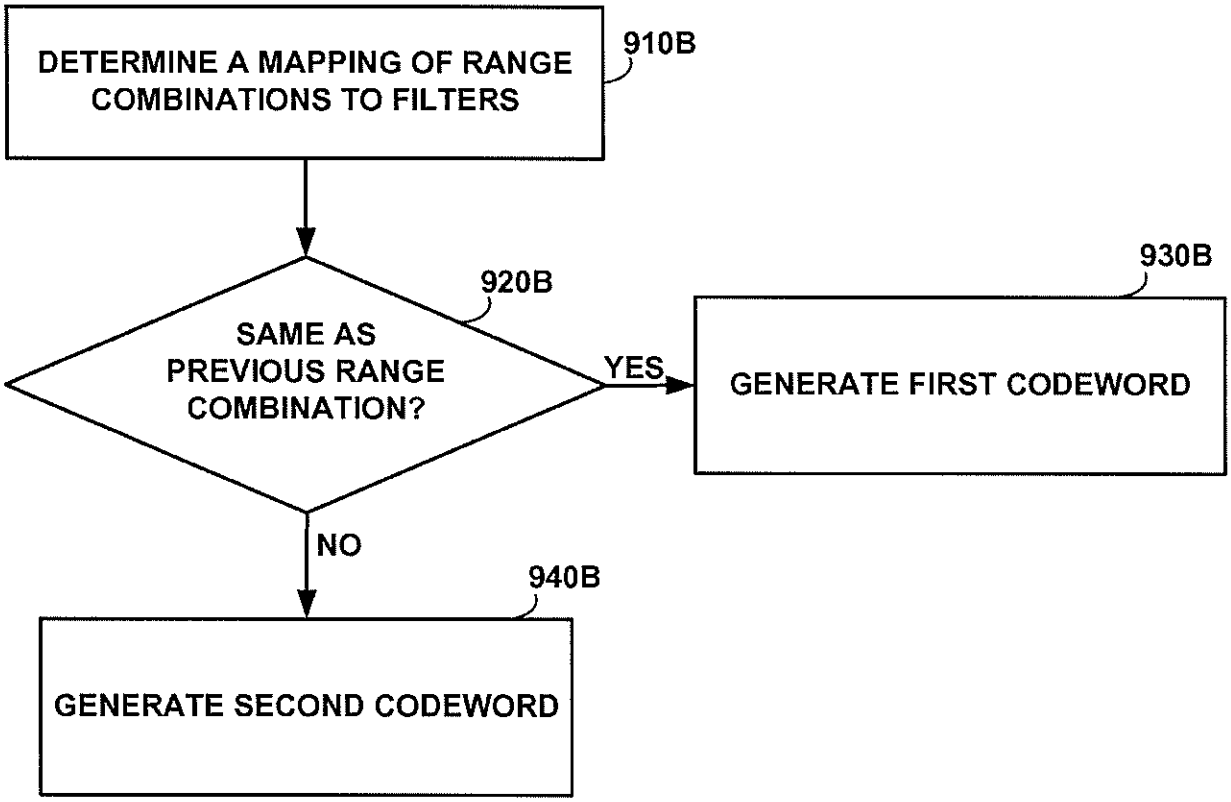

DETERMINE A MAPPING OF RANGE COMBINATIONS TO FILTERS
910B
SAME AS PREVIOUS RANGE COMBINATION?
920B
YES
GENERATE FIRST CODEWORD
930B
NO
GENERATE SECOND CODEWORD
940B

FIG. 9B

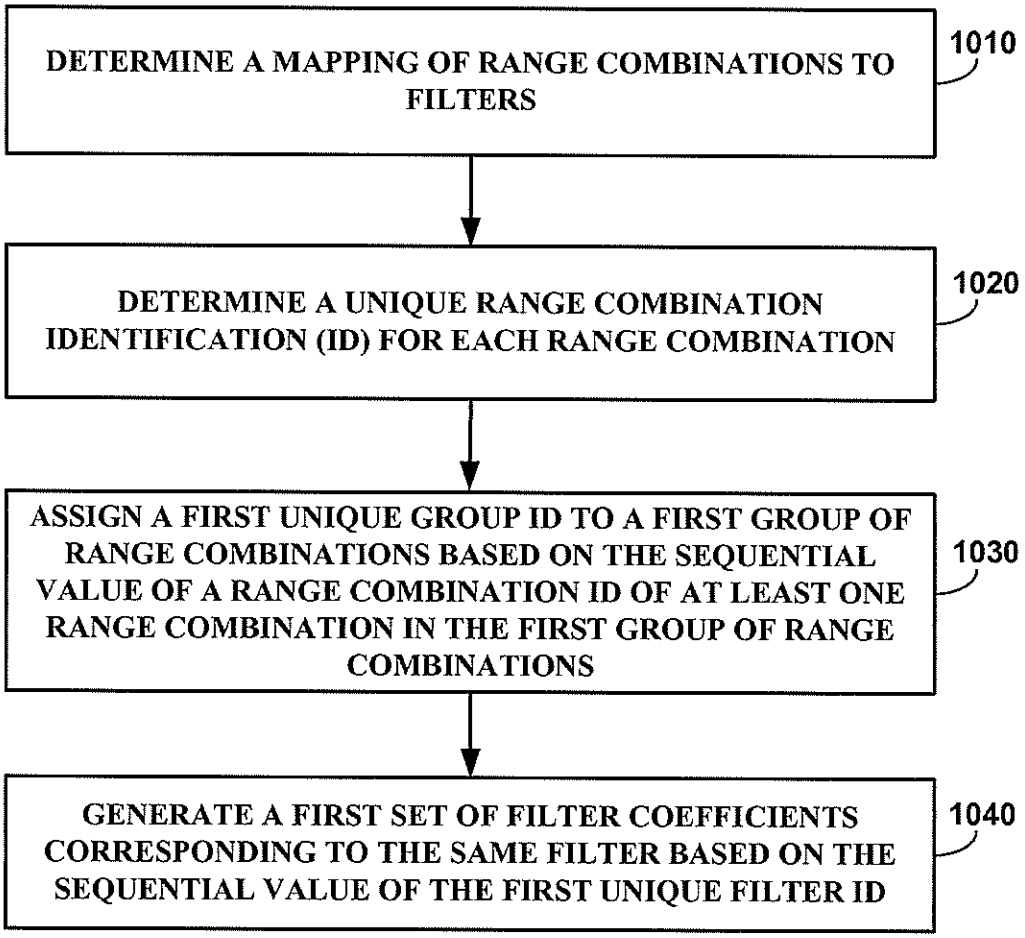

DETERMINE A MAPPING OF RANGE COMBINATIONS TO FILTERS
1010
DETERMINE A UNIQUE RANGE COMBINATION IDENTIFICATION (ID) FOR EACH RANGE COMBINATION
1020
ASSIGN A FIRST UNIQUE GROUP ID TO A FIRST GROUP OF RANGE COMBINATIONS BASED ON THE SEQUENTIAL VALUE OF A RANGE COMBINATION ID OF AT LEAST ONE RANGE COMBINATION IN THE FIRST GROUP OF RANGE COMBINATIONS
1030
GENERATE A FIRST SET OF FILTER COEFFICIENTS CORRESPONDING TO THE SAME FILTER BASED ON THE SEQUENTIAL VALUE OF THE FIRST UNIQUE FILTER ID
1040

FIG. 10

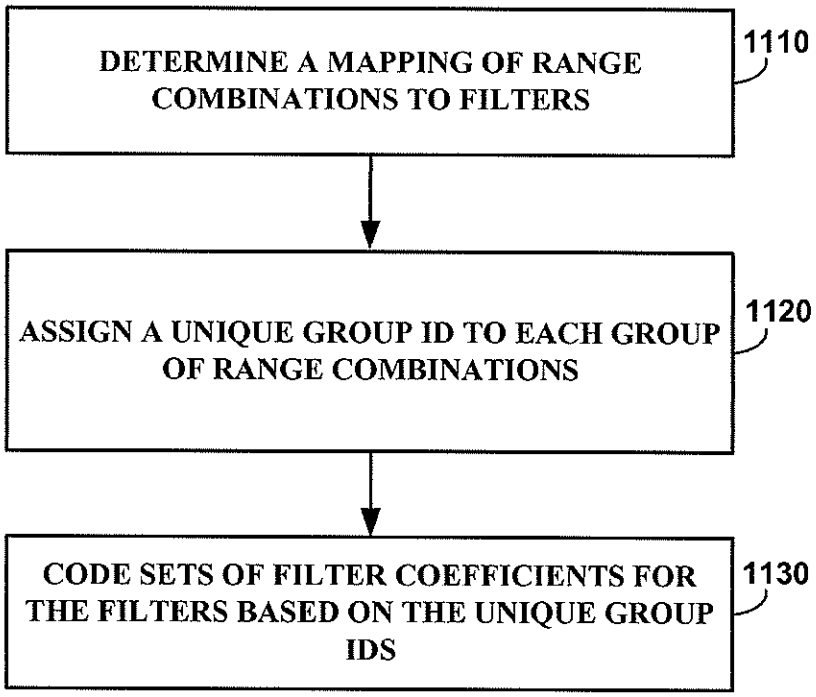

DETERMINE A MAPPING OF RANGE COMBINATIONS TO FILTERS
1110
ASSIGN A UNIQUE GROUP ID TO EACH GROUP OF RANGE COMBINATIONS
1120
CODE SETS OF FILTER COEFFICIENTS FOR THE FILTERS BASED ON THE UNIQUE GROUP IDS
1130

FIG. 11