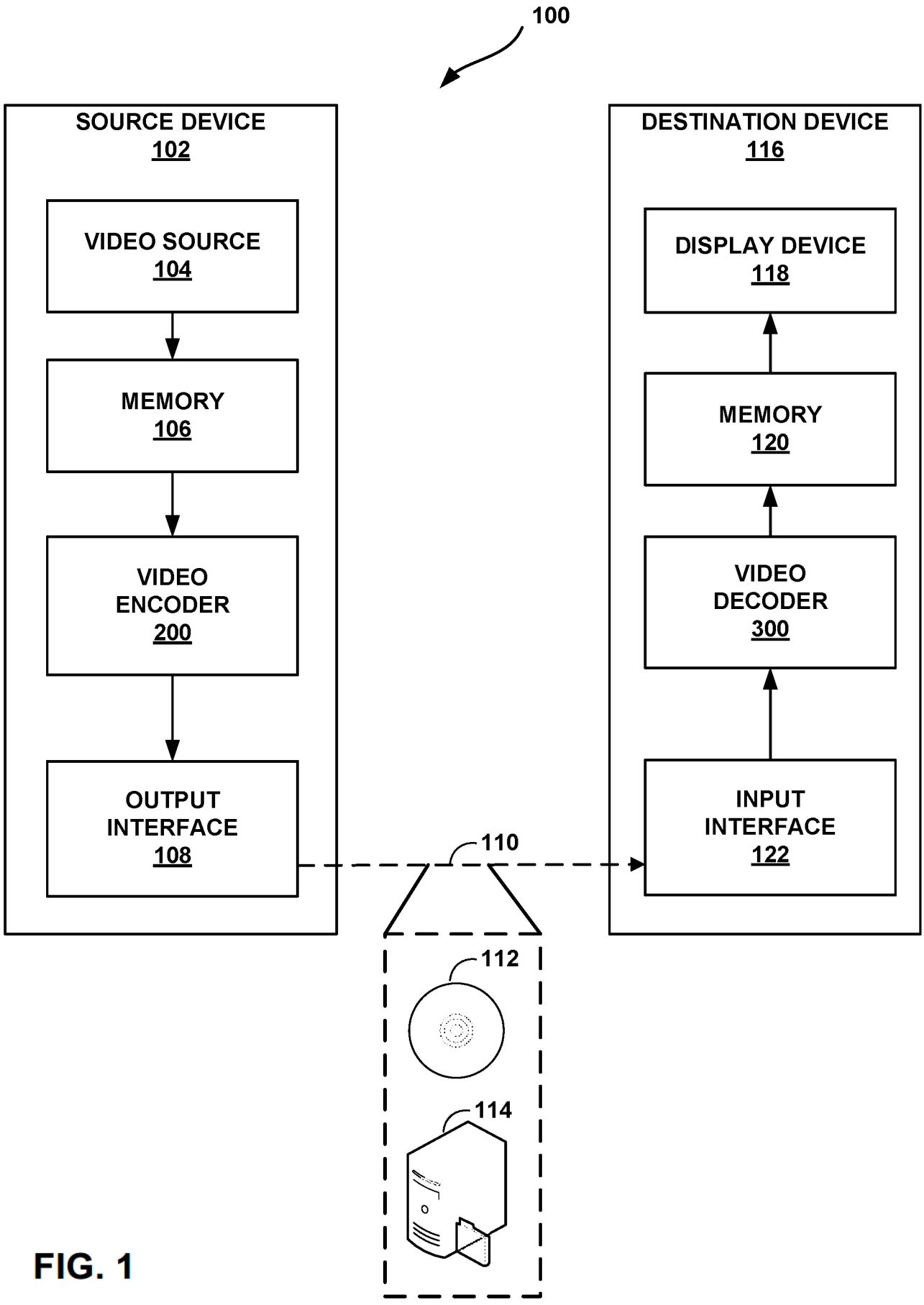

100
SOURCE DEVICE
102
VIDEO SOURCE
104
MEMORY
106
VIDEO
ENCODER
200
OUTPUT
INTERFACE
108
DESTINATION DEVICE
116
DISPLAY DEVICE
118
MEMORY
120
VIDEO
DECODER
300
INPUT
INTERFACE
122
110
112
114

FIG. 1

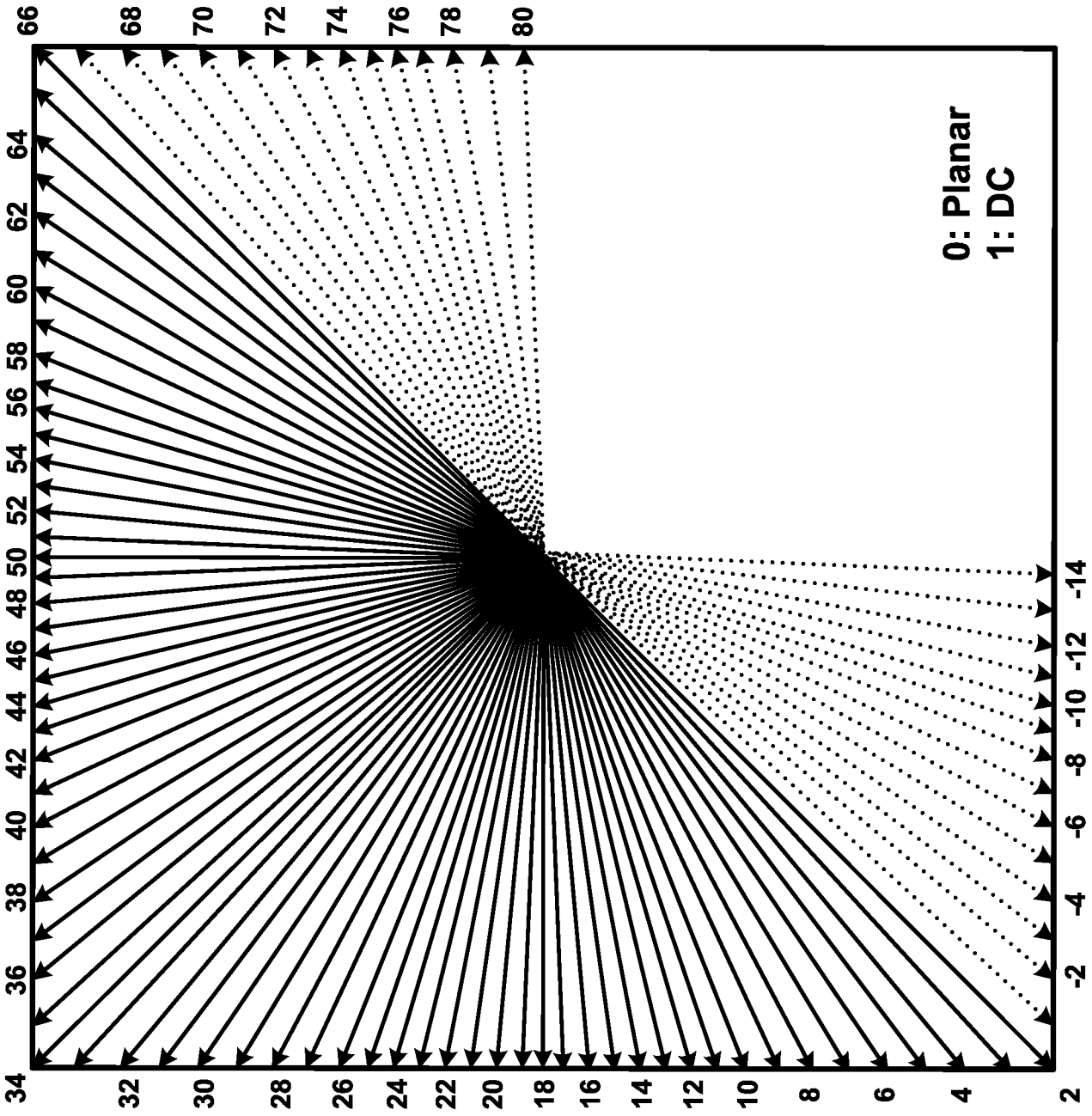

66
68
70
72
74
76
78
80
64
62
60
58
56
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
-2
-4
-6
-8
-10
-12
-14
0: Planar
1: DC

FIG. 2

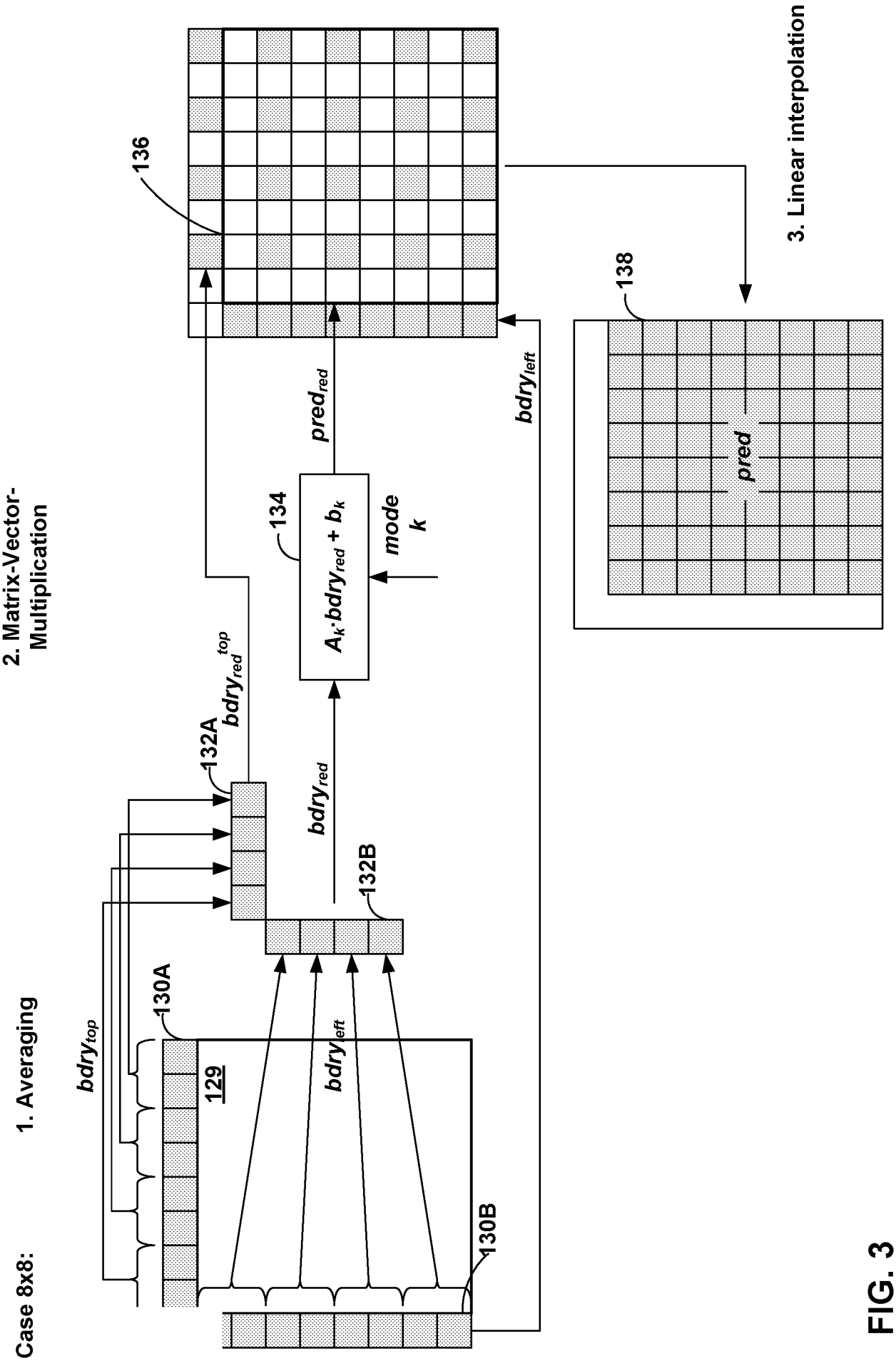

Case 8x8:
1. Averaging
2. Matrix-Vector-Multiplication
3. Linear interpolation
$bdry_{top}$
130A
129
$bdry_{left}$
130B
$bdry_{red}$
132A
$bdry_{red}^{top}$
132B
$A_k \cdot bdry_{red} + b_k$
134
mode
k
$pred_{red}$
136
$bdry_{left}$
138
pred

FIG. 3

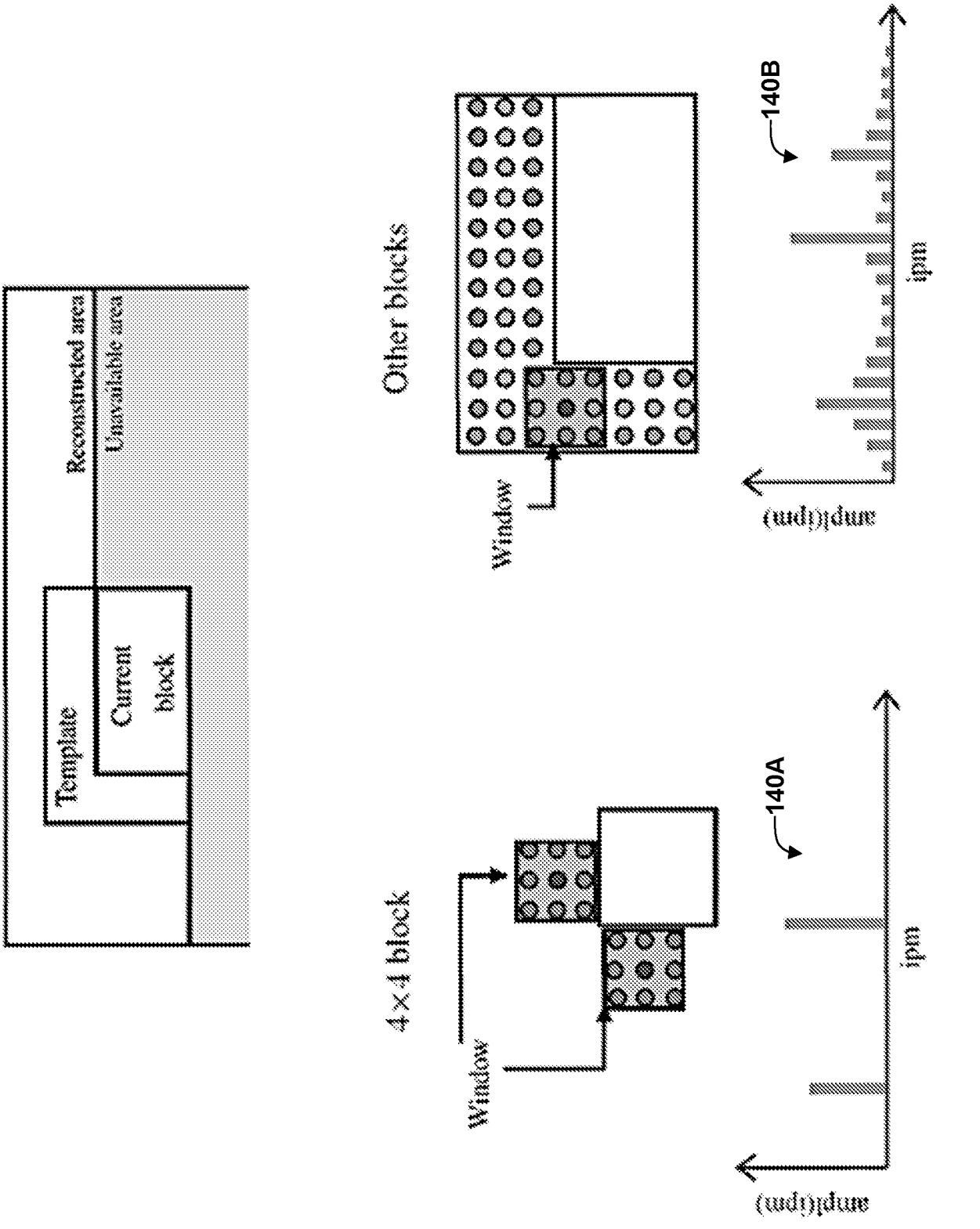

Reconstructed area
Unavailable area
Template
Current block
Other blocks
Window
amp(ipm)
ipm
140B
4×4 block
Window
amp(ipm)
ipm
140A

FIG. 4

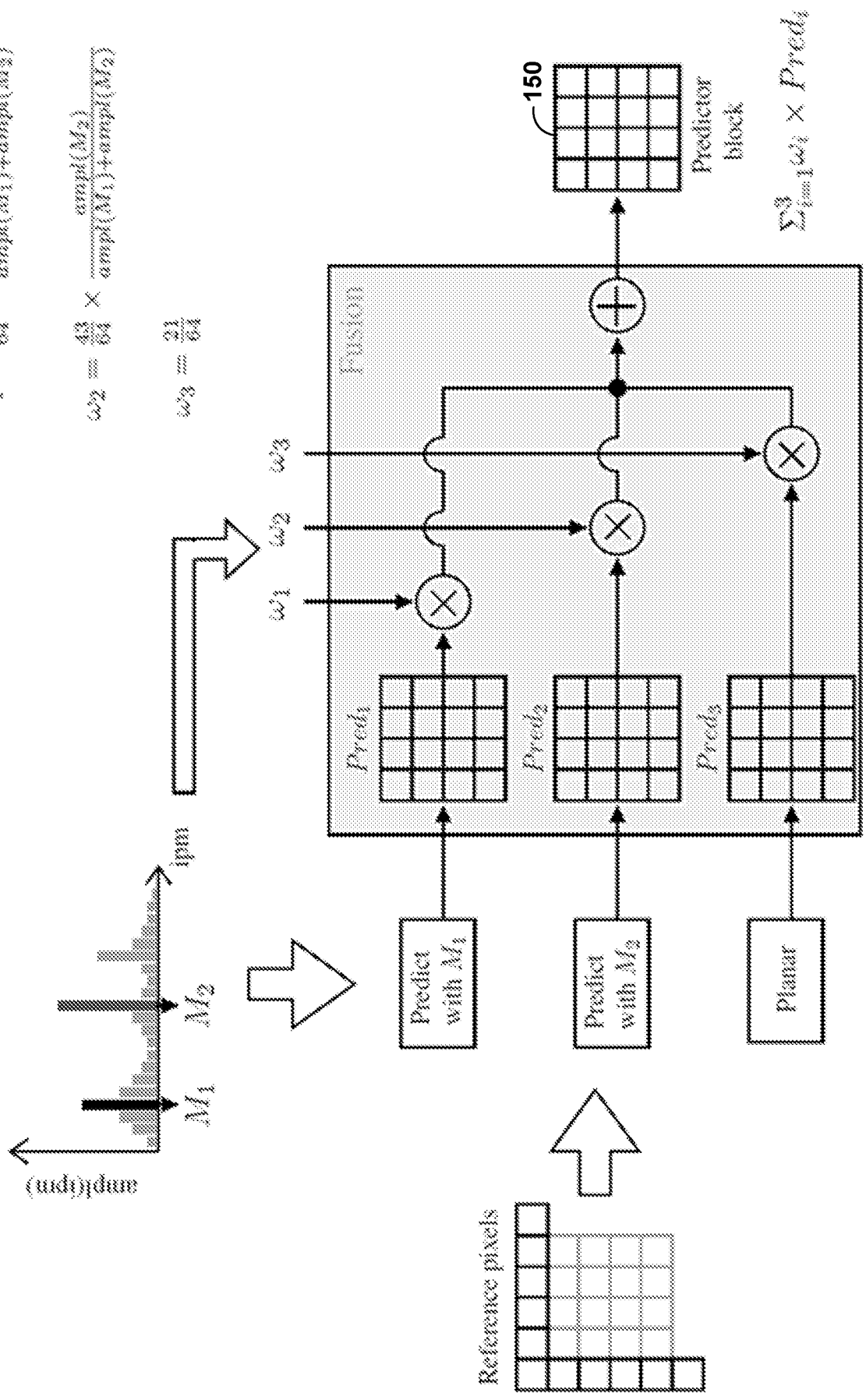

$\omega_1 = \frac{43}{64} \times \frac{ampl(M_1)}{ampl(M_1)+ampl(M_2)}$
$\omega_2 = \frac{43}{64} \times \frac{ampl(M_2)}{ampl(M_1)+ampl(M_2)}$
$\omega_3 = \frac{21}{64}$
amp(ipm)
ipm
M_1
M_2
Reference pixels
Predict with M_1
Predict with M_2
Planar
$Pred_1$
$Pred_2$
$Pred_3$
ω_1
ω_2
ω_3
Fusion
150
Predictor block
$\Sigma_{i=1}^{3}(\omega_i \times Pred_i)$

FIG. 5

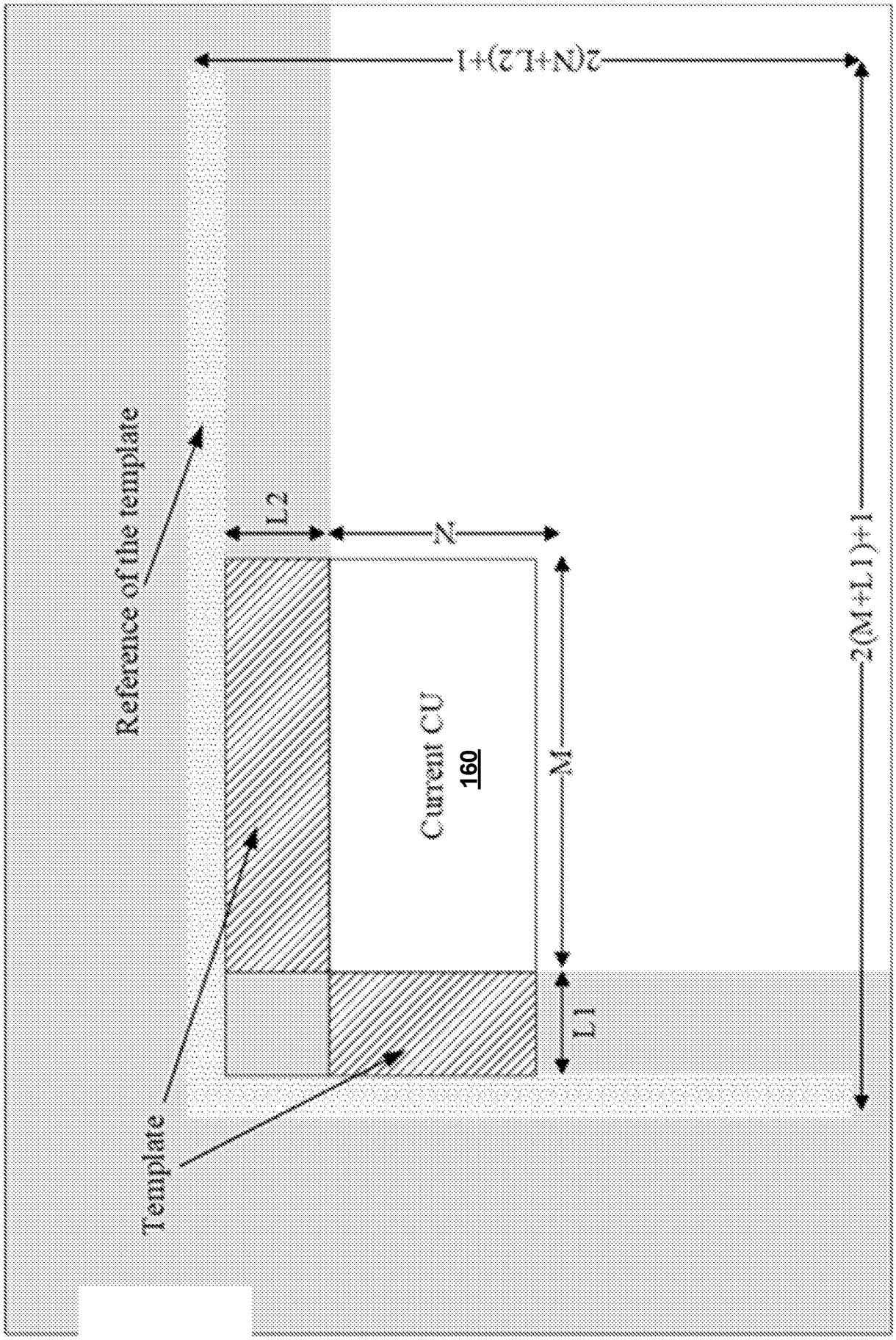

2(N+L2)+1
Reference of the template
L2
N
Current CU
160
M
2(M+L1)+1
L1
Template

FIG. 6

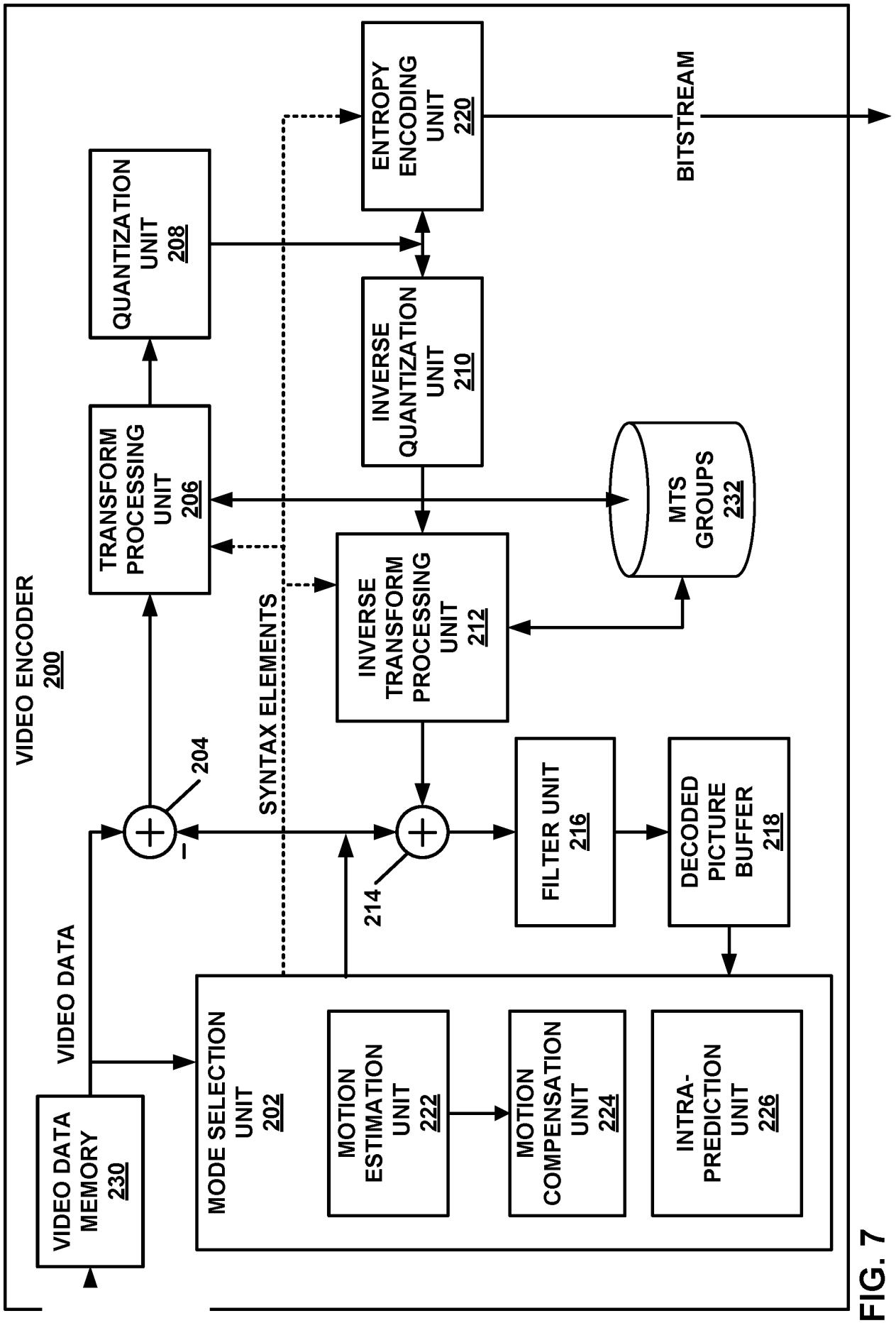

VIDEO ENCODER
200
VIDEO DATA MEMORY
230
VIDEO DATA
MODE SELECTION UNIT
202
MOTION ESTIMATION UNIT
222
MOTION COMPENSATION UNIT
224
INTRA-PREDICTION UNIT
226
204
214
SYNTAX ELEMENTS
TRANSFORM PROCESSING UNIT
206
QUANTIZATION UNIT
208
INVERSE QUANTIZATION UNIT
210
INVERSE TRANSFORM PROCESSING UNIT
212
MTS GROUPS
232
FILTER UNIT
216
DECODED PICTURE BUFFER
218
ENTROPY ENCODING UNIT
220
BITSTREAM

FIG. 7

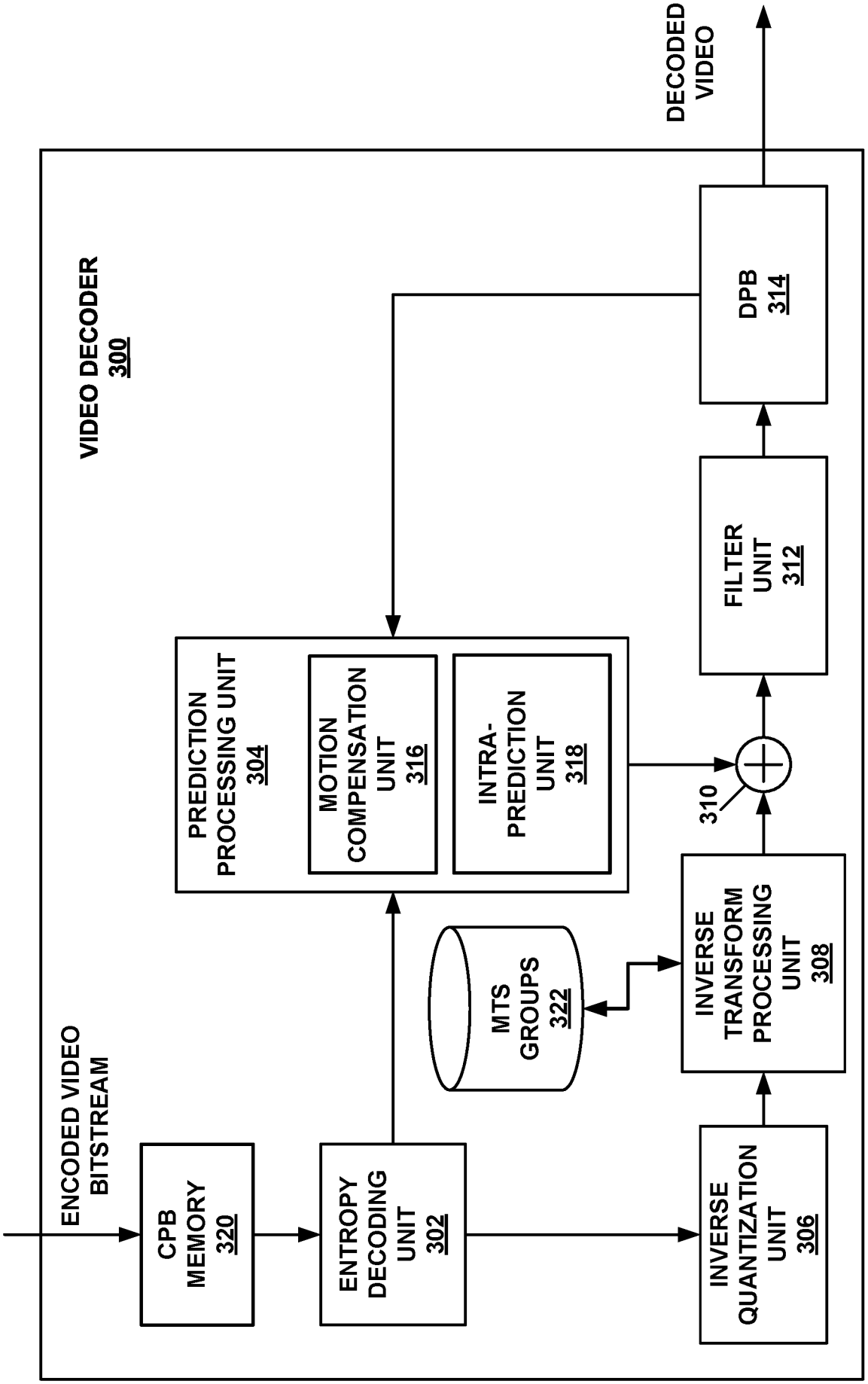

DECODED VIDEO
VIDEO DECODER 300
DPB 314
FILTER UNIT 312
PREDICTION PROCESSING UNIT 304
MOTION COMPENSATION UNIT 316
INTRA-PREDICTION UNIT 318
310
INVERSE TRANSFORM PROCESSING UNIT 308
MTS GROUPS 322
ENCODED VIDEO BITSTREAM
CPB MEMORY 320
ENTROPY DECODING UNIT 302
INVERSE QUANTIZATION UNIT 306

FIG. 8

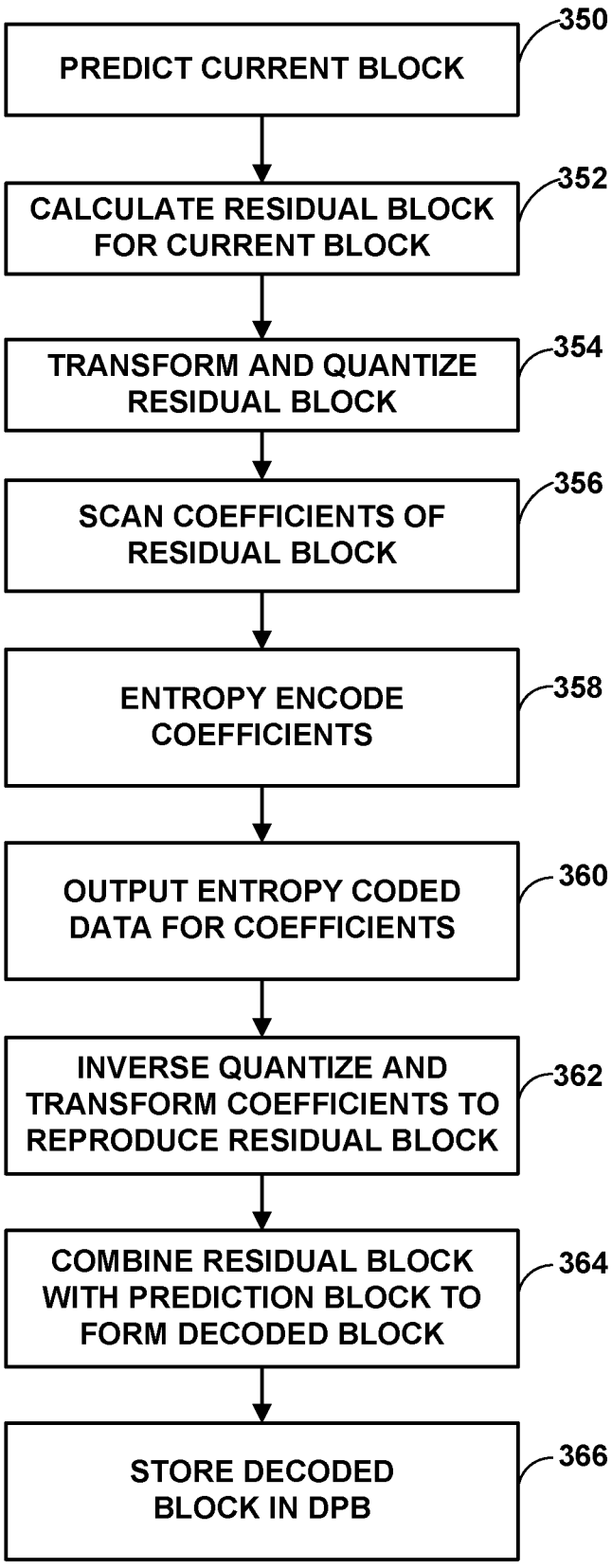

PREDICT CURRENT BLOCK
350
CALCULATE RESIDUAL BLOCK FOR CURRENT BLOCK
352
TRANSFORM AND QUANTIZE RESIDUAL BLOCK
354
SCAN COEFFICIENTS OF RESIDUAL BLOCK
356
ENTROPY ENCODE COEFFICIENTS
358
OUTPUT ENTROPY CODED DATA FOR COEFFICIENTS
360
INVERSE QUANTIZE AND TRANSFORM COEFFICIENTS TO REPRODUCE RESIDUAL BLOCK
362
COMBINE RESIDUAL BLOCK WITH PREDICTION BLOCK TO FORM DECODED BLOCK
364
STORE DECODED BLOCK IN DPB
366

FIG. 9

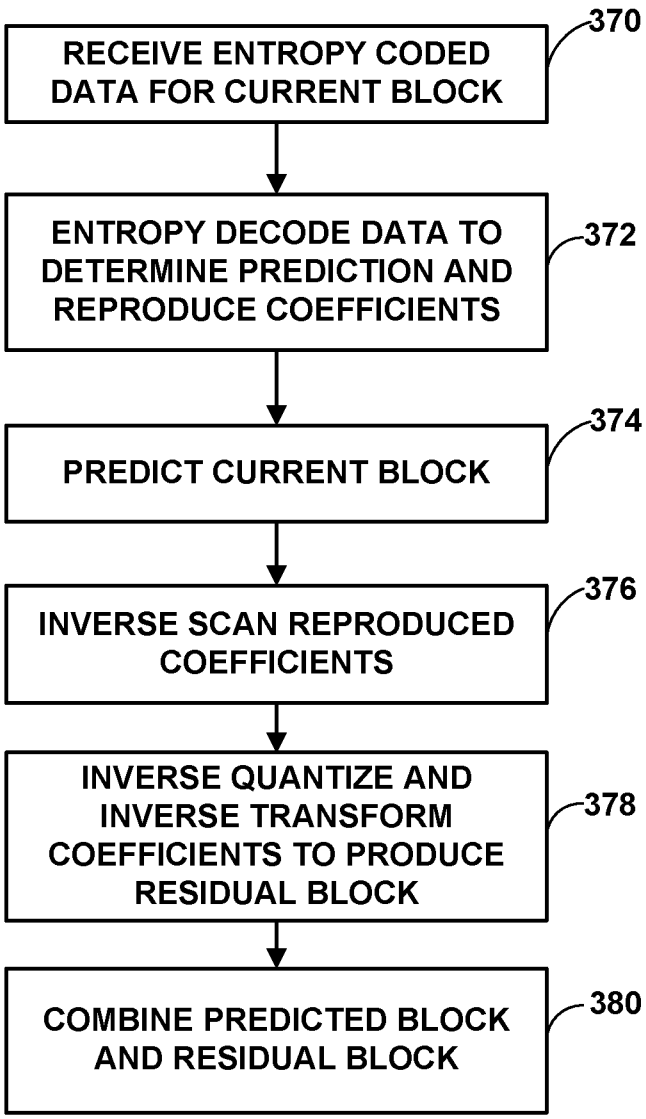

RECEIVE ENTROPY CODED DATA FOR CURRENT BLOCK
370
ENTROPY DECODE DATA TO DETERMINE PREDICTION AND REPRODUCE COEFFICIENTS
372
PREDICT CURRENT BLOCK
374
INVERSE SCAN REPRODUCED COEFFICIENTS
376
INVERSE QUANTIZE AND INVERSE TRANSFORM COEFFICIENTS TO PRODUCE RESIDUAL BLOCK
378
COMBINE PREDICTED BLOCK AND RESIDUAL BLOCK
380

FIG. 10

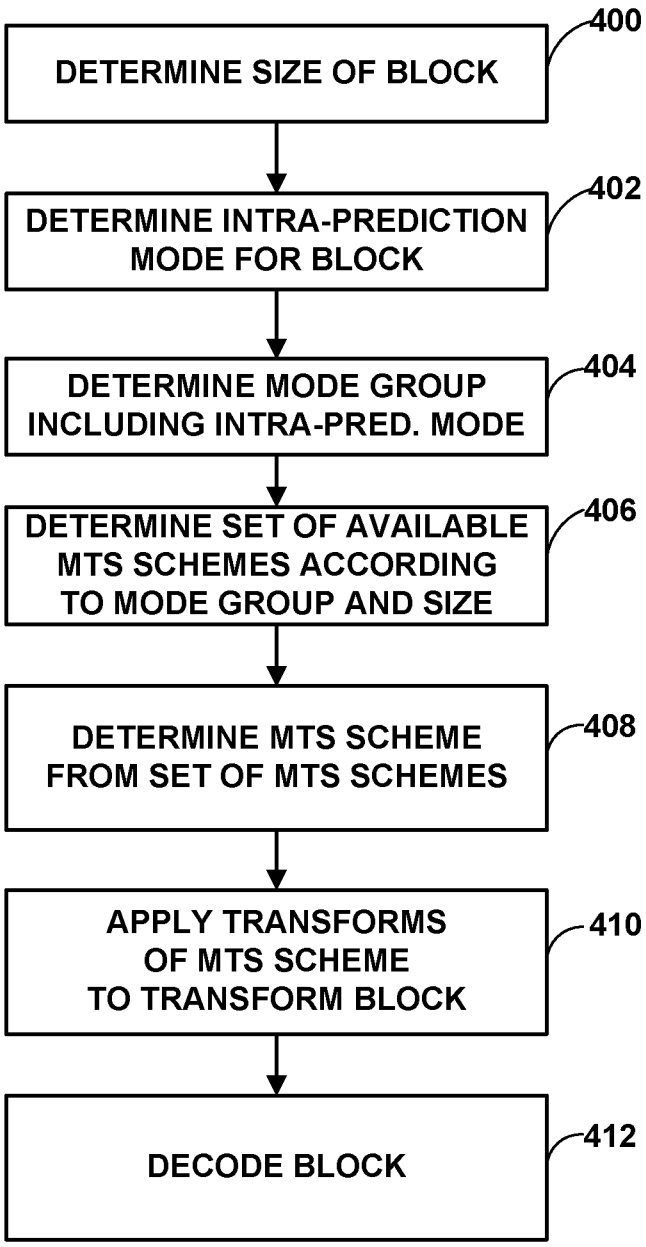

DETERMINE SIZE OF BLOCK
400
DETERMINE INTRA-PREDICTION MODE FOR BLOCK
402
DETERMINE MODE GROUP INCLUDING INTRA-PRED. MODE
404
DETERMINE SET OF AVAILABLE MTS SCHEMES ACCORDING TO MODE GROUP AND SIZE
406
DETERMINE MTS SCHEME FROM SET OF MTS SCHEMES
408
APPLY TRANSFORMS OF MTS SCHEME TO TRANSFORM BLOCK
410
DECODE BLOCK
412

FIG. 11

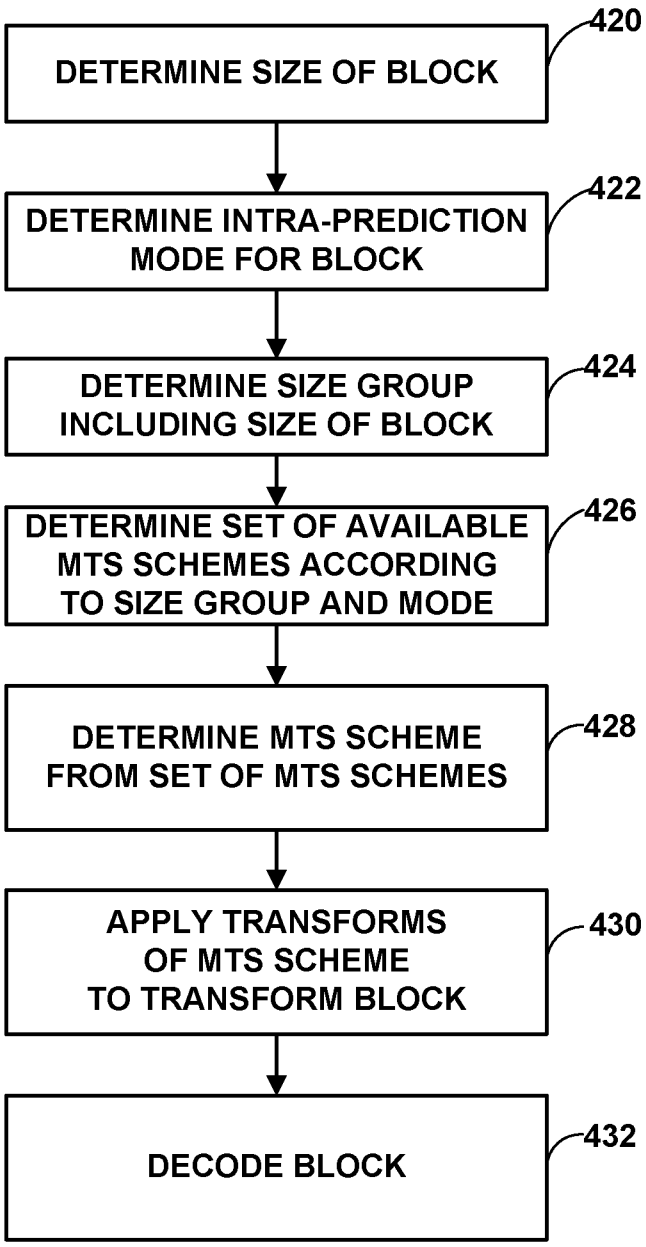

DETERMINE SIZE OF BLOCK
420
DETERMINE INTRA-PREDICTION MODE FOR BLOCK
422
DETERMINE SIZE GROUP INCLUDING SIZE OF BLOCK
424
DETERMINE SET OF AVAILABLE MTS SCHEMES ACCORDING TO SIZE GROUP AND MODE
426
DETERMINE MTS SCHEME FROM SET OF MTS SCHEMES
428
APPLY TRANSFORMS OF MTS SCHEME TO TRANSFORM BLOCK
430
DECODE BLOCK
432

FIG. 12

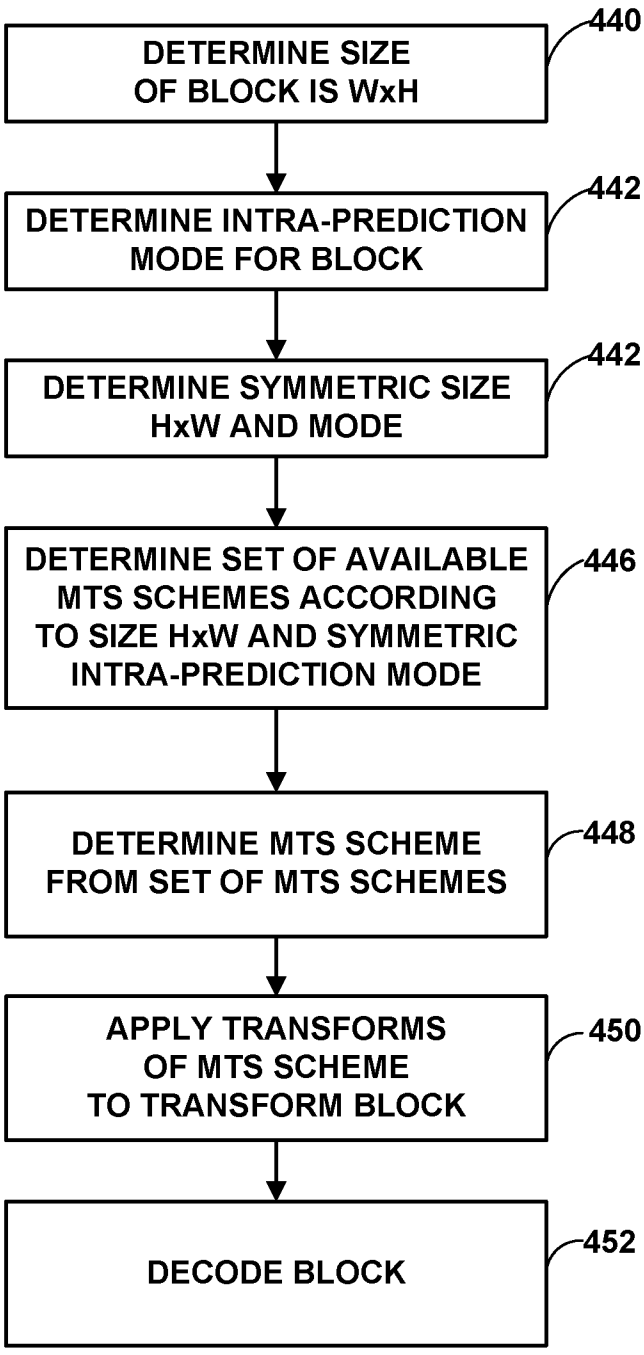

DETERMINE SIZE OF BLOCK IS WxH
440
DETERMINE INTRA-PREDICTION MODE FOR BLOCK
442
DETERMINE SYMMETRIC SIZE HxW AND MODE
442
DETERMINE SET OF AVAILABLE MTS SCHEMES ACCORDING TO SIZE HxW AND SYMMETRIC INTRA-PREDICTION MODE
446
DETERMINE MTS SCHEME FROM SET OF MTS SCHEMES
448
APPLY TRANSFORMS OF MTS SCHEME TO TRANSFORM BLOCK
450
DECODE BLOCK
452

FIG. 13