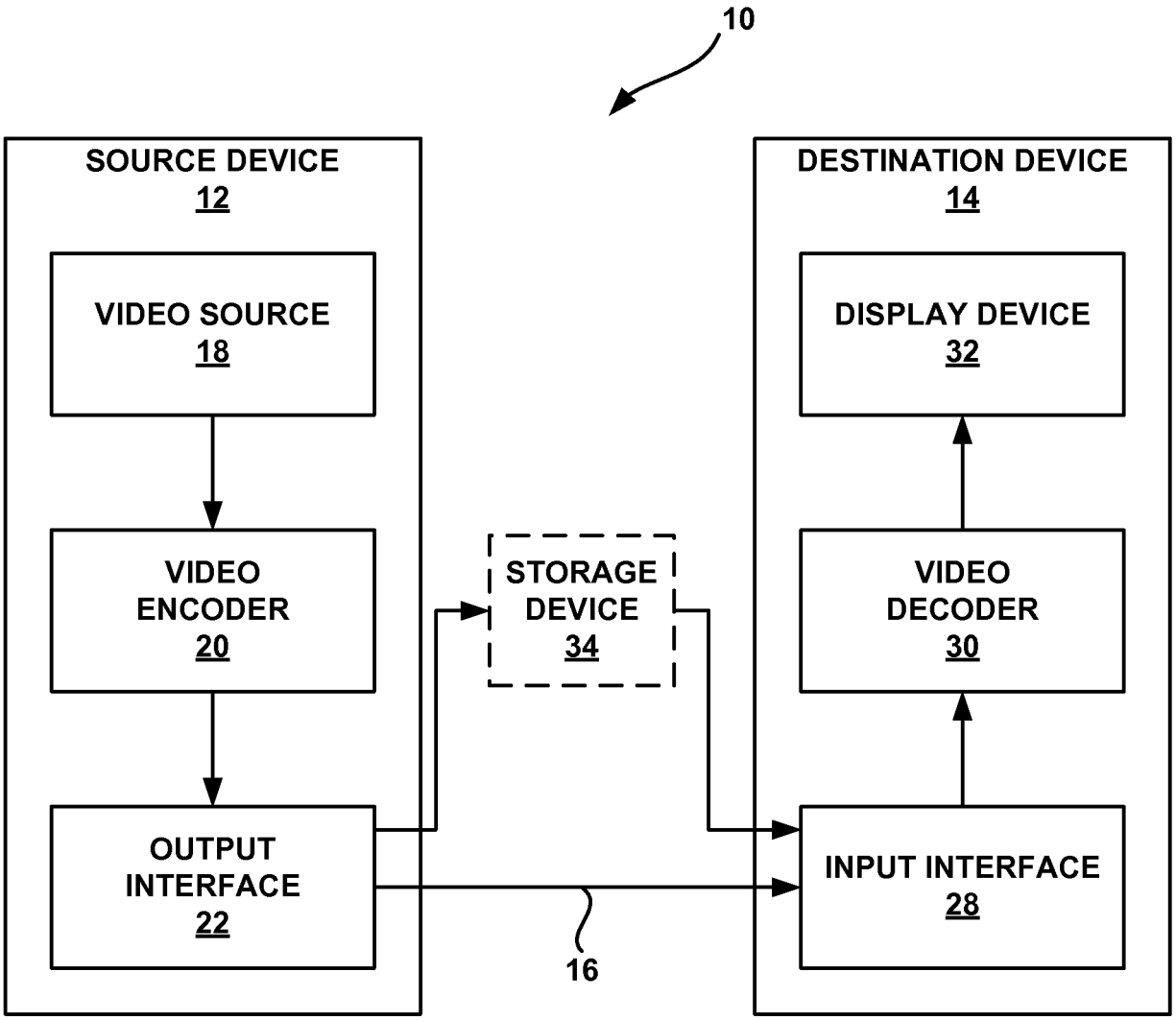

10
SOURCE DEVICE
12
VIDEO SOURCE
18
VIDEO
ENCODER
20
OUTPUT
INTERFACE
22
STORAGE
DEVICE
34
16
DESTINATION DEVICE
14
DISPLAY DEVICE
32
VIDEO
DECODER
30
INPUT INTERFACE
28

FIG. 1

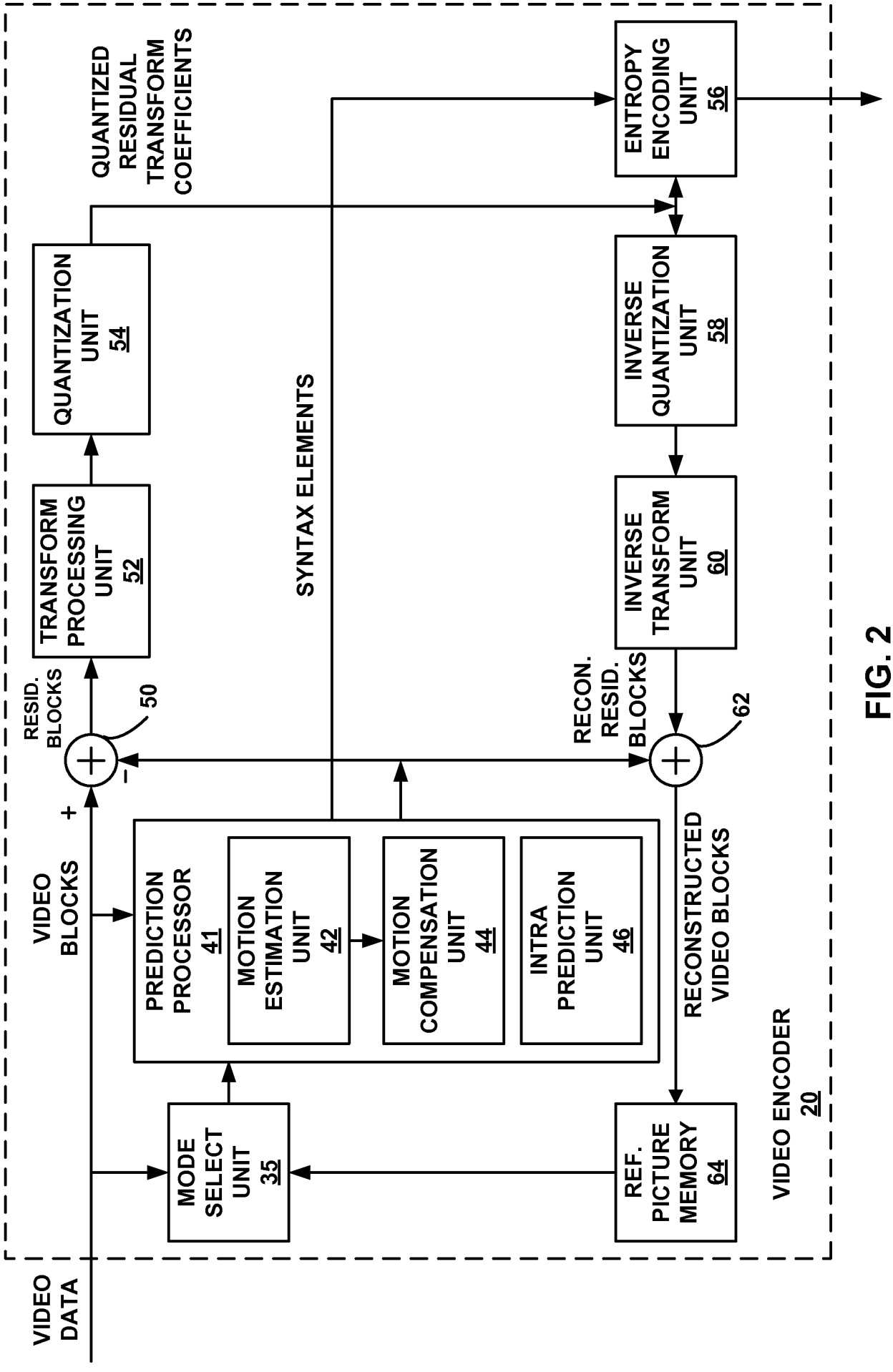

VIDEO ENCODER 20
VIDEO DATA
MODE SELECT UNIT 35
REF. PICTURE MEMORY 64
PREDICTION PROCESSOR 41
MOTION ESTIMATION UNIT 42
MOTION COMPENSATION UNIT 44
INTRA PREDICTION UNIT 46
VIDEO BLOCKS
RESID. BLOCKS
50
TRANSFORM PROCESSING UNIT 52
QUANTIZATION UNIT 54
QUANTIZED RESIDUAL TRANSFORM COEFFICIENTS
SYNTAX ELEMENTS
ENTROPY ENCODING UNIT 56
INVERSE QUANTIZATION UNIT 58
INVERSE TRANSFORM UNIT 60
RECON. RESID. BLOCKS
62
RECONSTRUCTED VIDEO BLOCKS

FIG. 2

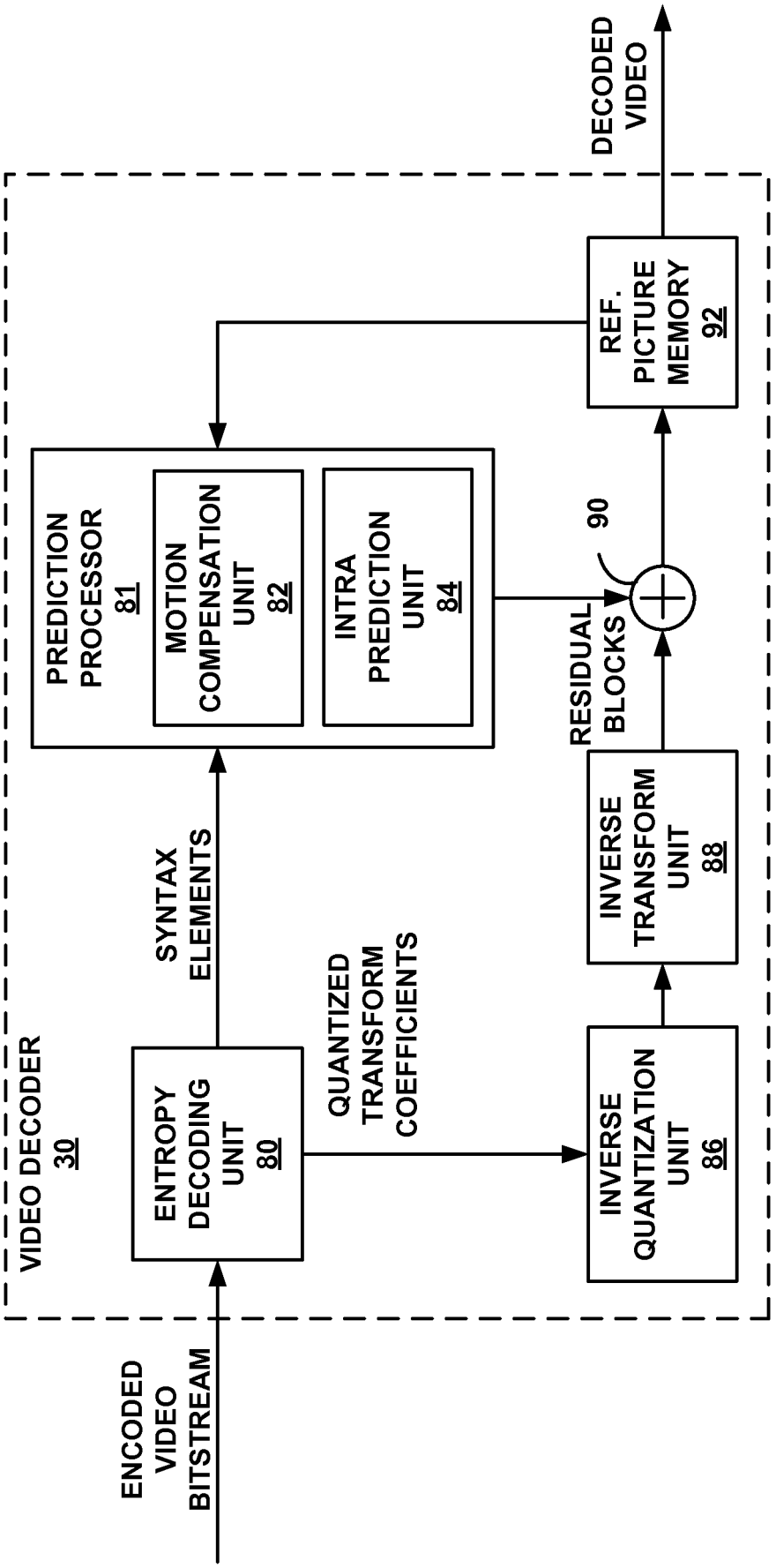

ENCODED VIDEO BITSTREAM
VIDEO DECODER 30
ENTROPY DECODING UNIT 80
SYNTAX ELEMENTS
QUANTIZED TRANSFORM COEFFICIENTS
PREDICTION PROCESSOR 81
MOTION COMPENSATION UNIT 82
INTRA PREDICTION UNIT 84
INVERSE QUANTIZATION UNIT 86
INVERSE TRANSFORM UNIT 88
RESIDUAL BLOCKS
90
REF. PICTURE MEMORY 92
DECODED VIDEO

FIG. 3

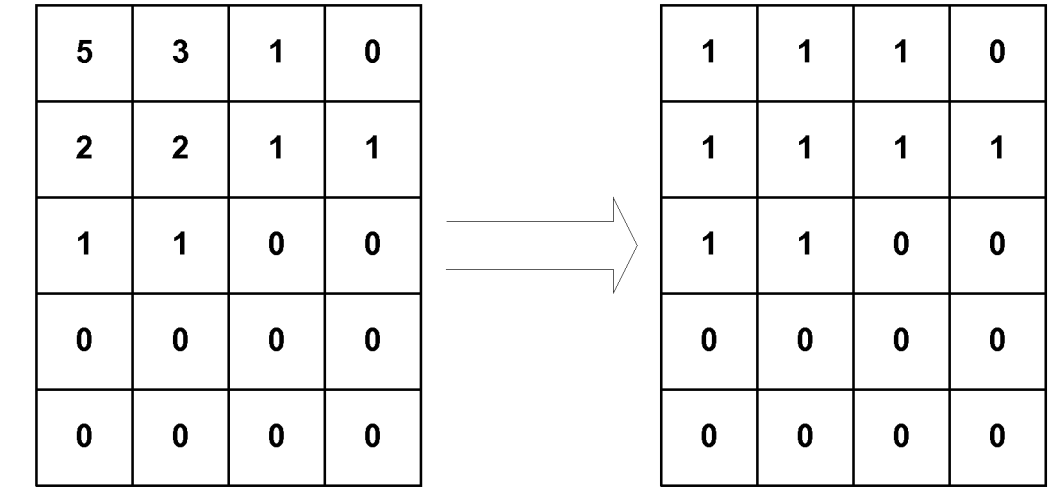

5 3 1 0
2 2 1 1
1 1 0 0
0 0 0 0
0 0 0 0
TRANSFORM COEFFICIENTS
1 1 1 0
1 1 1 1
1 1 0 0
0 0 0 0
0 0 0 0
SIGNIFICANCE MAP

FIG. 4

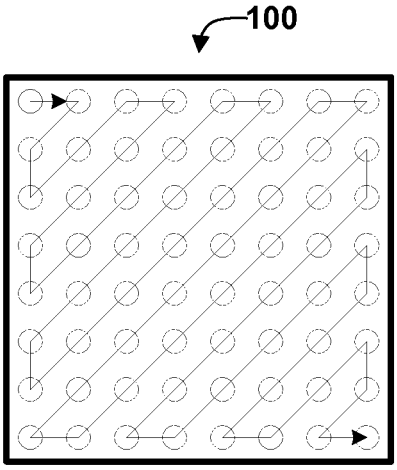


FIG. 5A

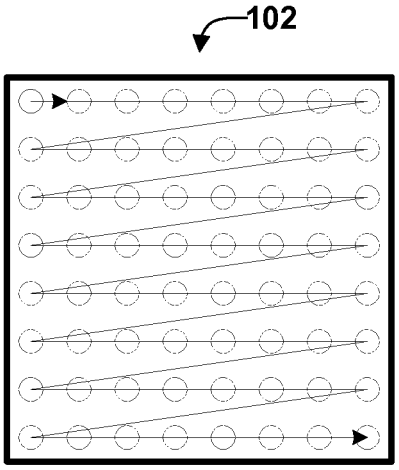


FIG. 5B

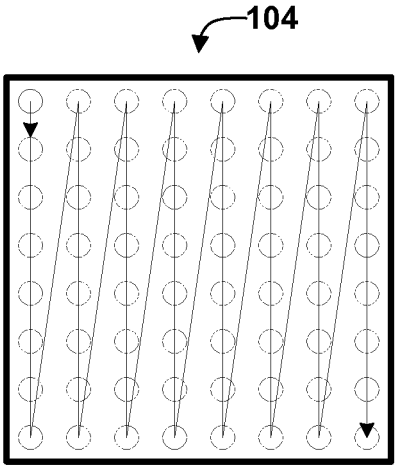


FIG. 5C

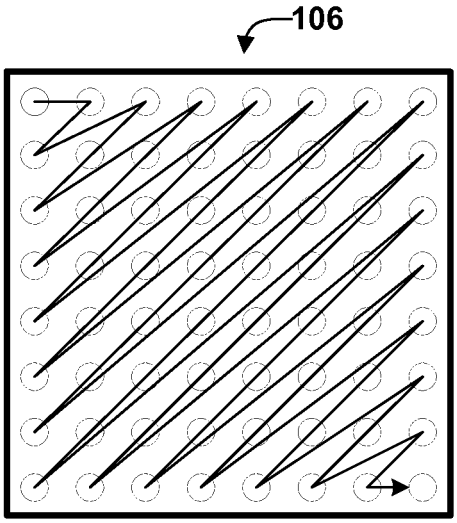


FIG. 5D

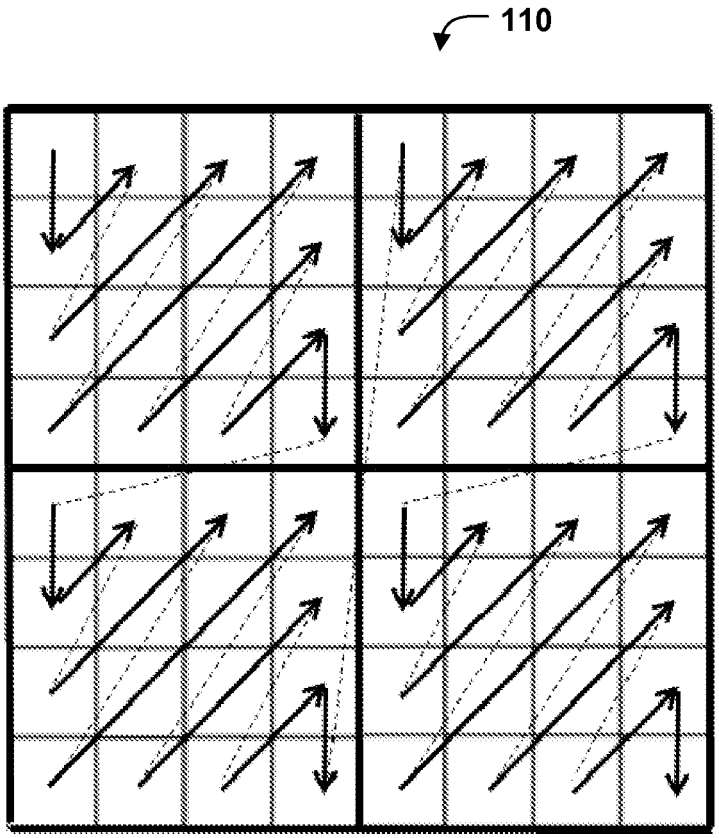


FIG. 6

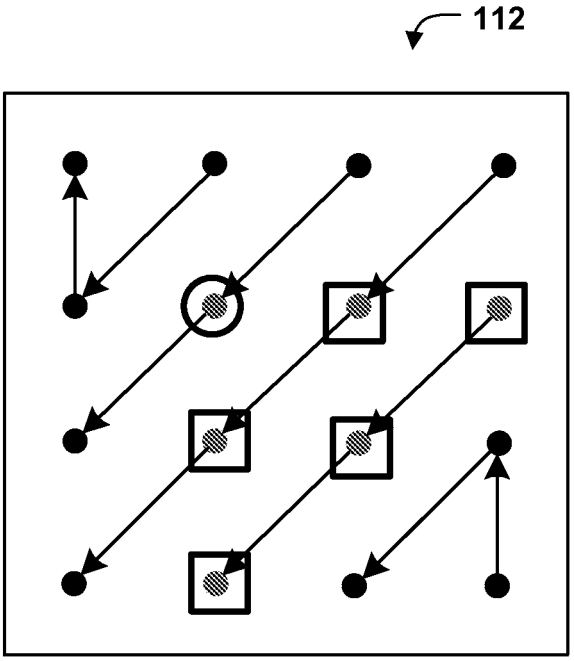


FIG. 7

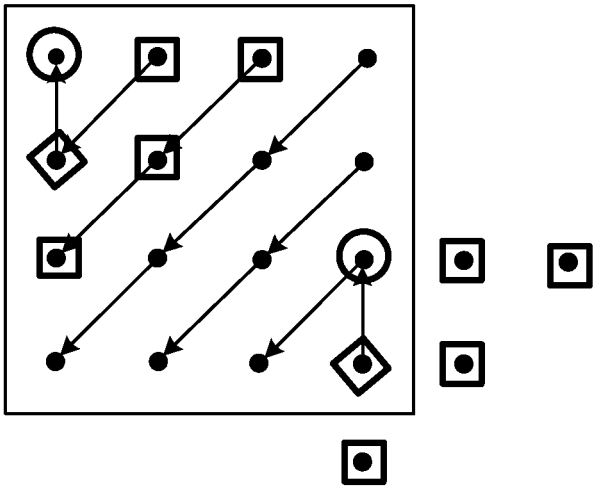


FIG. 8A

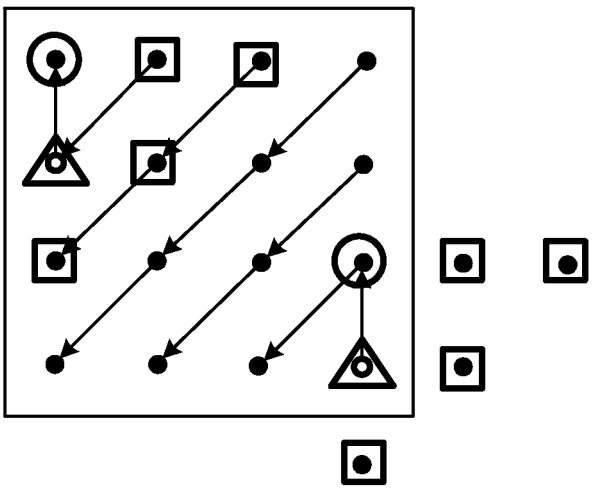


FIG. 8B

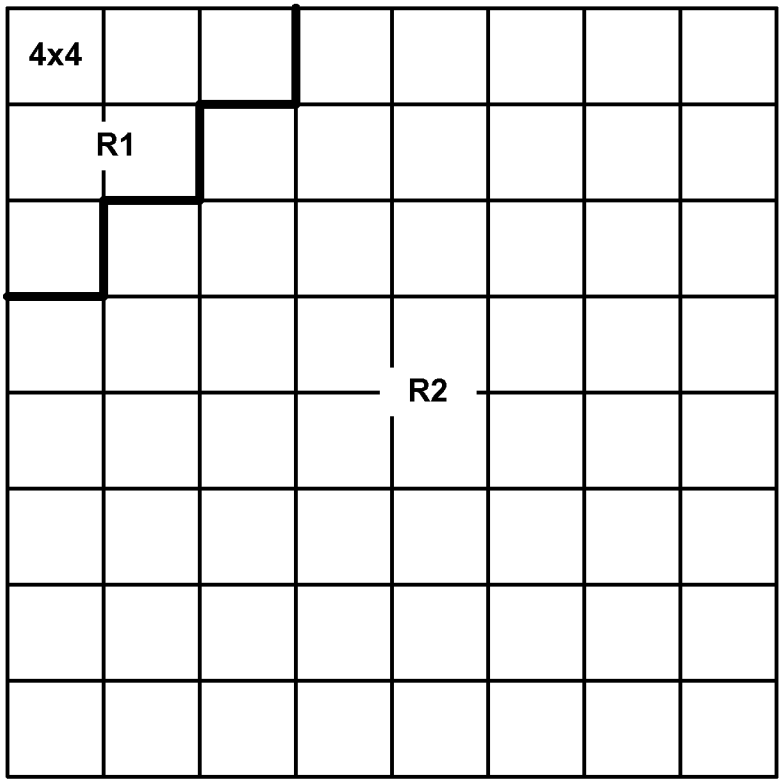


FIG. 9A

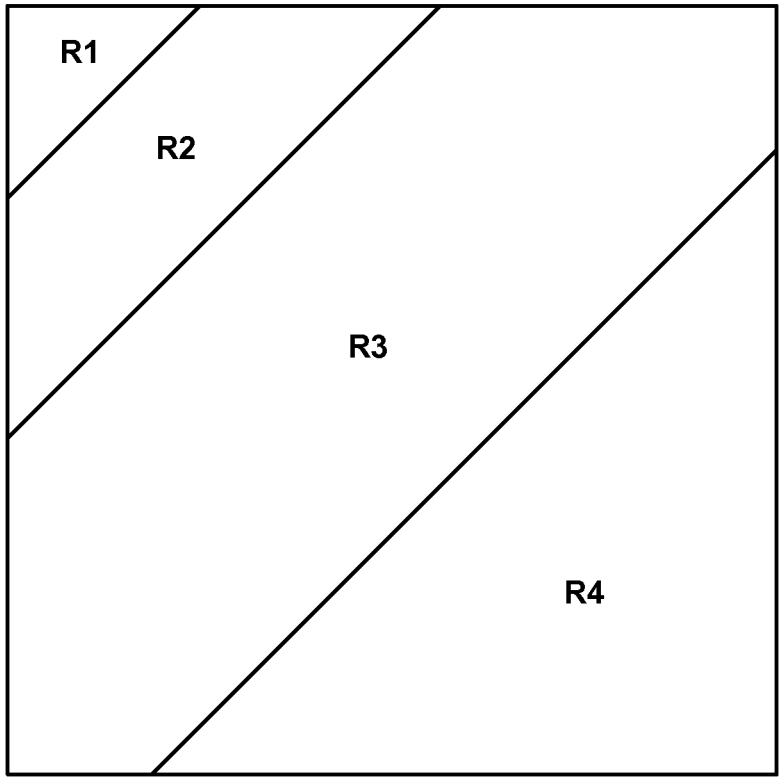


FIG. 9B

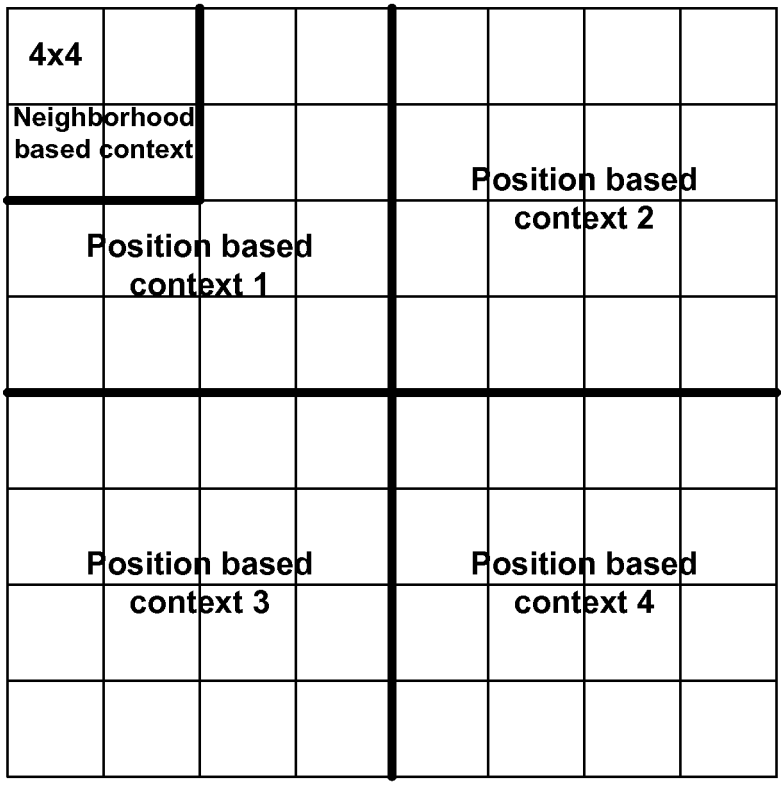

4x4
Neighborhood based context
Position based context 1
Position based context 2
Position based context 3
Position based context 4

FIG. 10

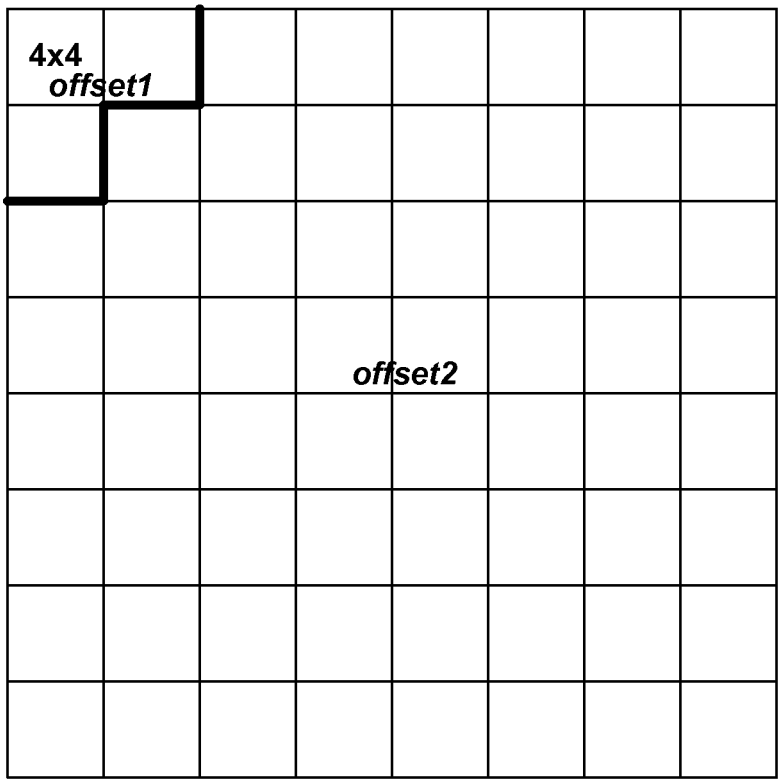

4x4
offset1
offset2

FIG. 11

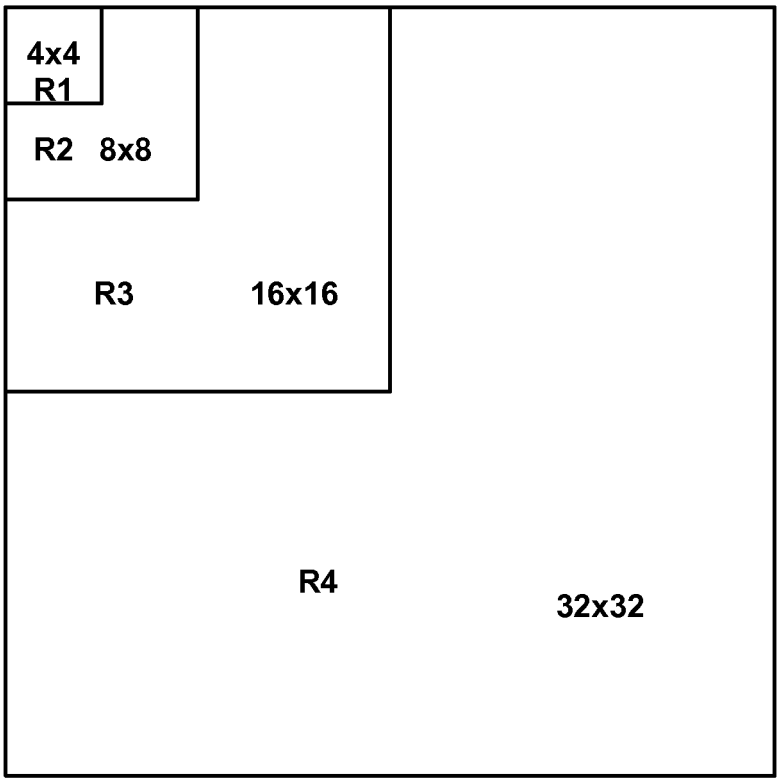


FIG. 12

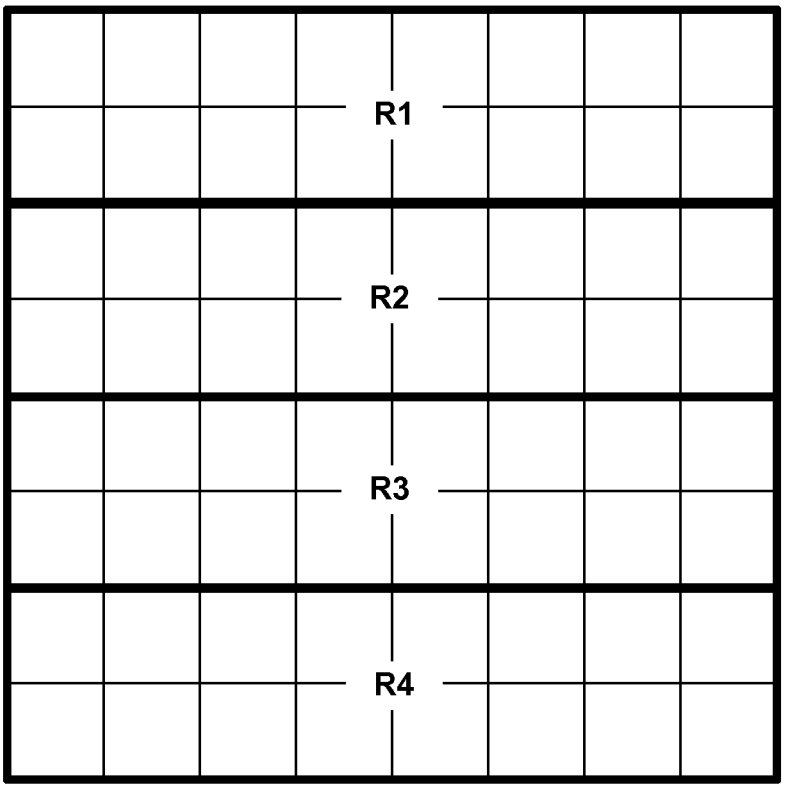


FIG. 13A

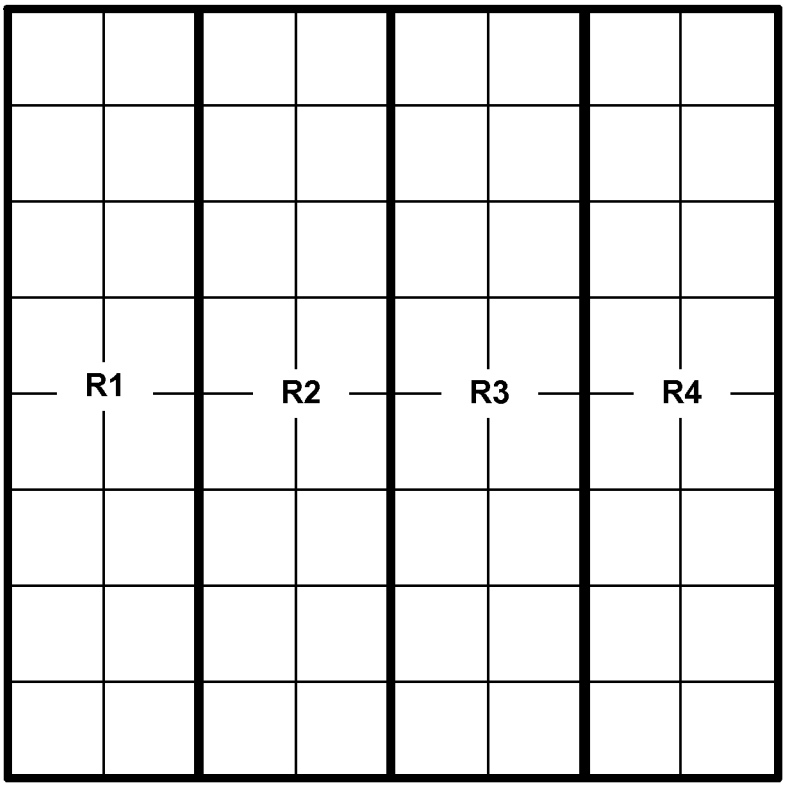


FIG. 13B

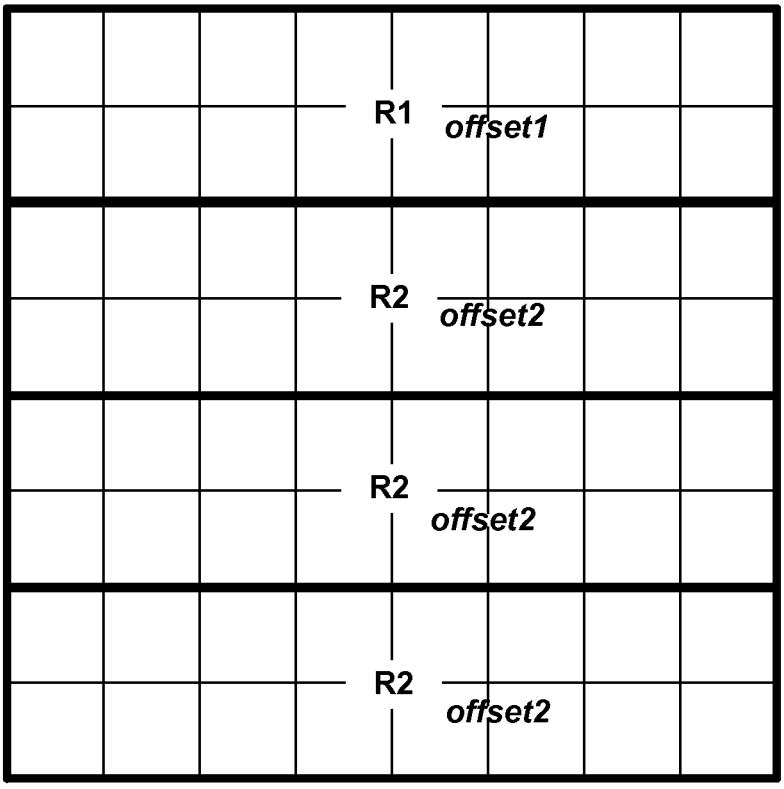


FIG. 14A

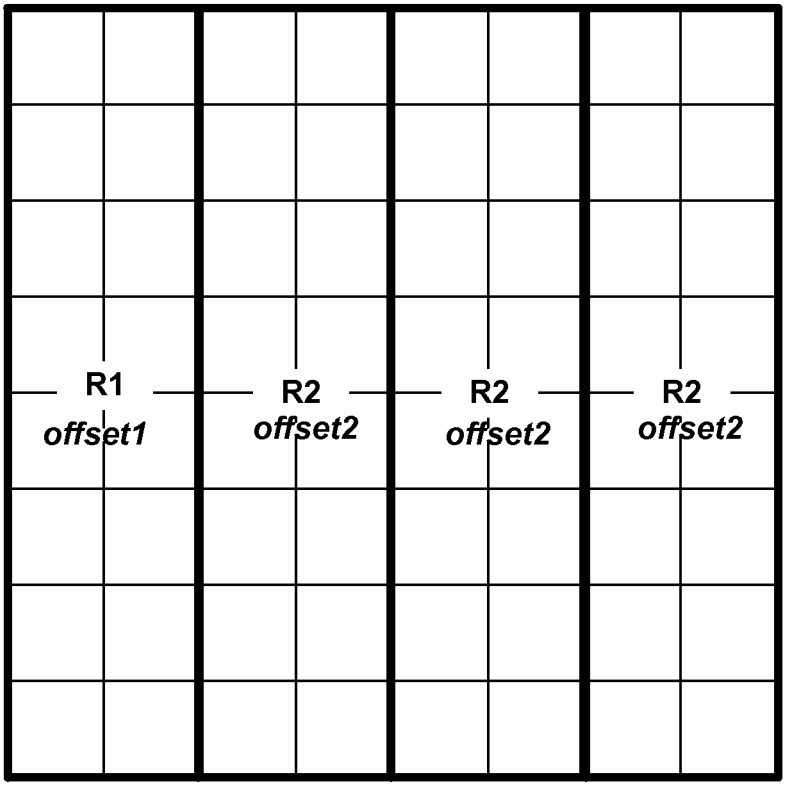


FIG. 14B

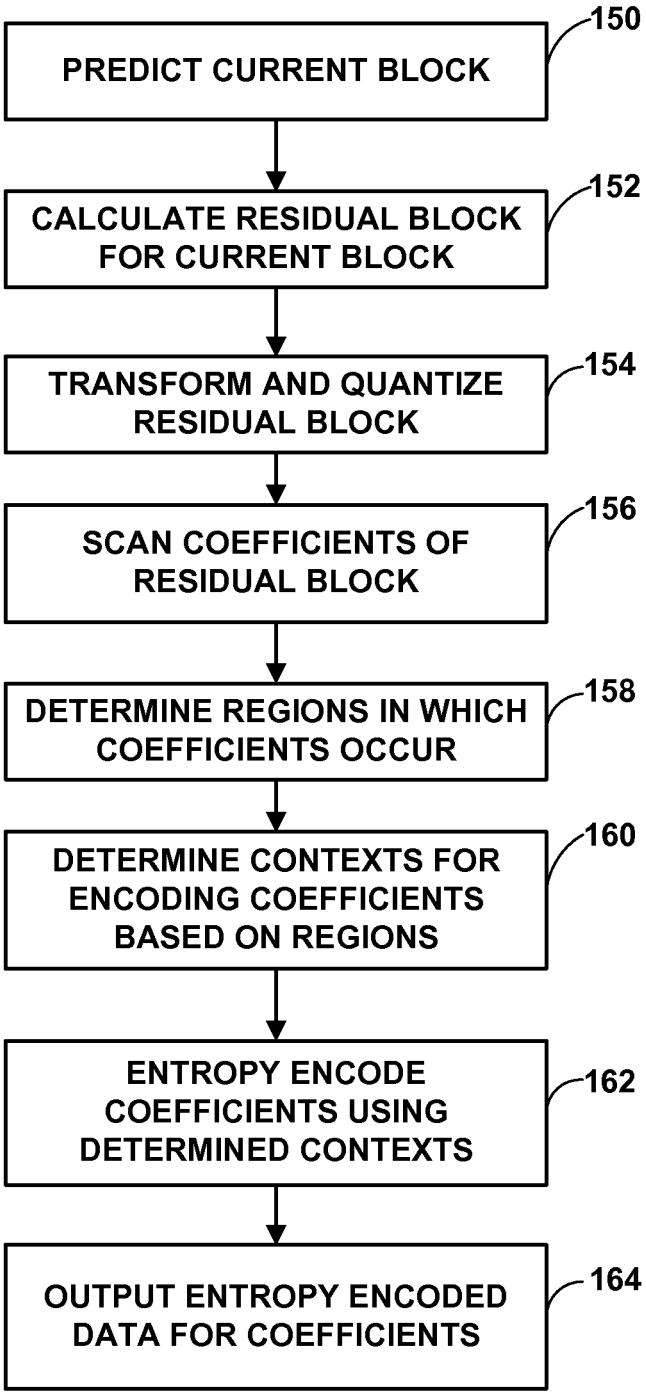

PREDICT CURRENT BLOCK
150
CALCULATE RESIDUAL BLOCK FOR CURRENT BLOCK
152
TRANSFORM AND QUANTIZE RESIDUAL BLOCK
154
SCAN COEFFICIENTS OF RESIDUAL BLOCK
156
DETERMINE REGIONS IN WHICH COEFFICIENTS OCCUR
158
DETERMINE CONTEXTS FOR ENCODING COEFFICIENTS BASED ON REGIONS
160
ENTROPY ENCODE COEFFICIENTS USING DETERMINED CONTEXTS
162
OUTPUT ENTROPY ENCODED DATA FOR COEFFICIENTS
164

FIG. 15

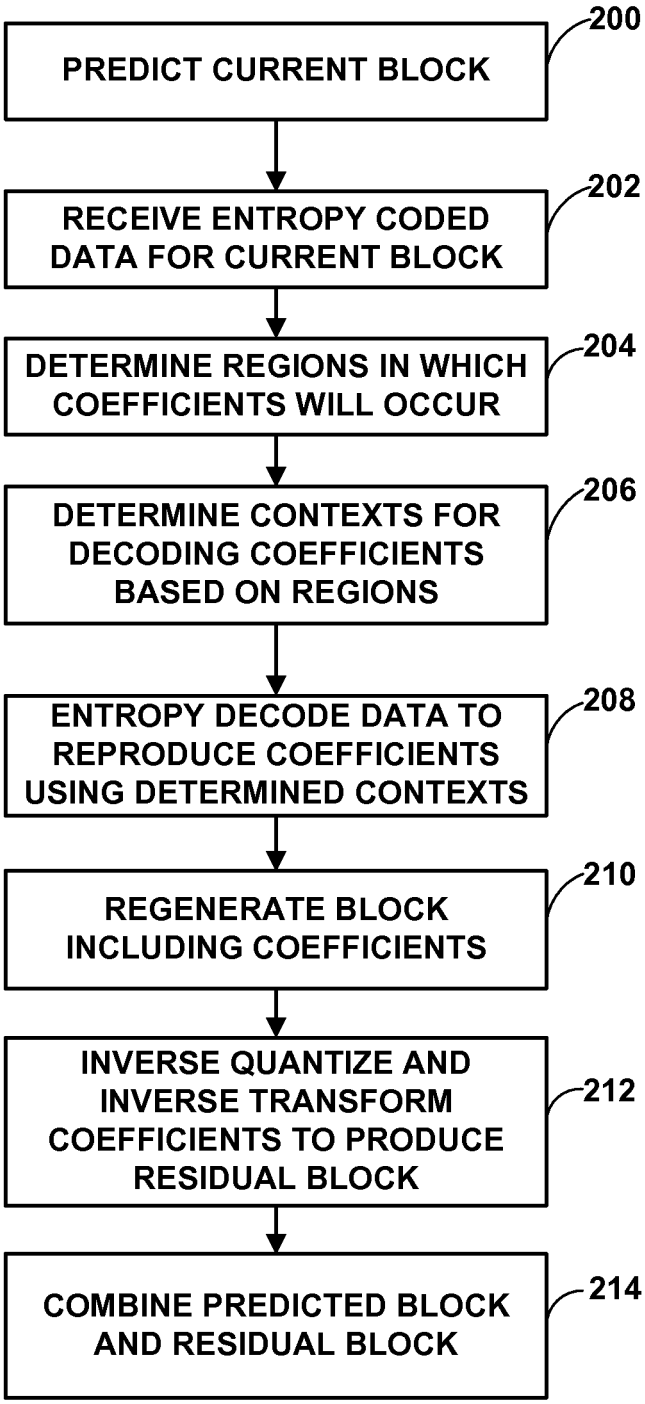

PREDICT CURRENT BLOCK
200
RECEIVE ENTROPY CODED DATA FOR CURRENT BLOCK
202
DETERMINE REGIONS IN WHICH COEFFICIENTS WILL OCCUR
204
DETERMINE CONTEXTS FOR DECODING COEFFICIENTS BASED ON REGIONS
206
ENTROPY DECODE DATA TO REPRODUCE COEFFICIENTS USING DETERMINED CONTEXTS
208
REGENERATE BLOCK INCLUDING COEFFICIENTS
210
INVERSE QUANTIZE AND INVERSE TRANSFORM COEFFICIENTS TO PRODUCE RESIDUAL BLOCK
212
COMBINE PREDICTED BLOCK AND RESIDUAL BLOCK
214

FIG. 16