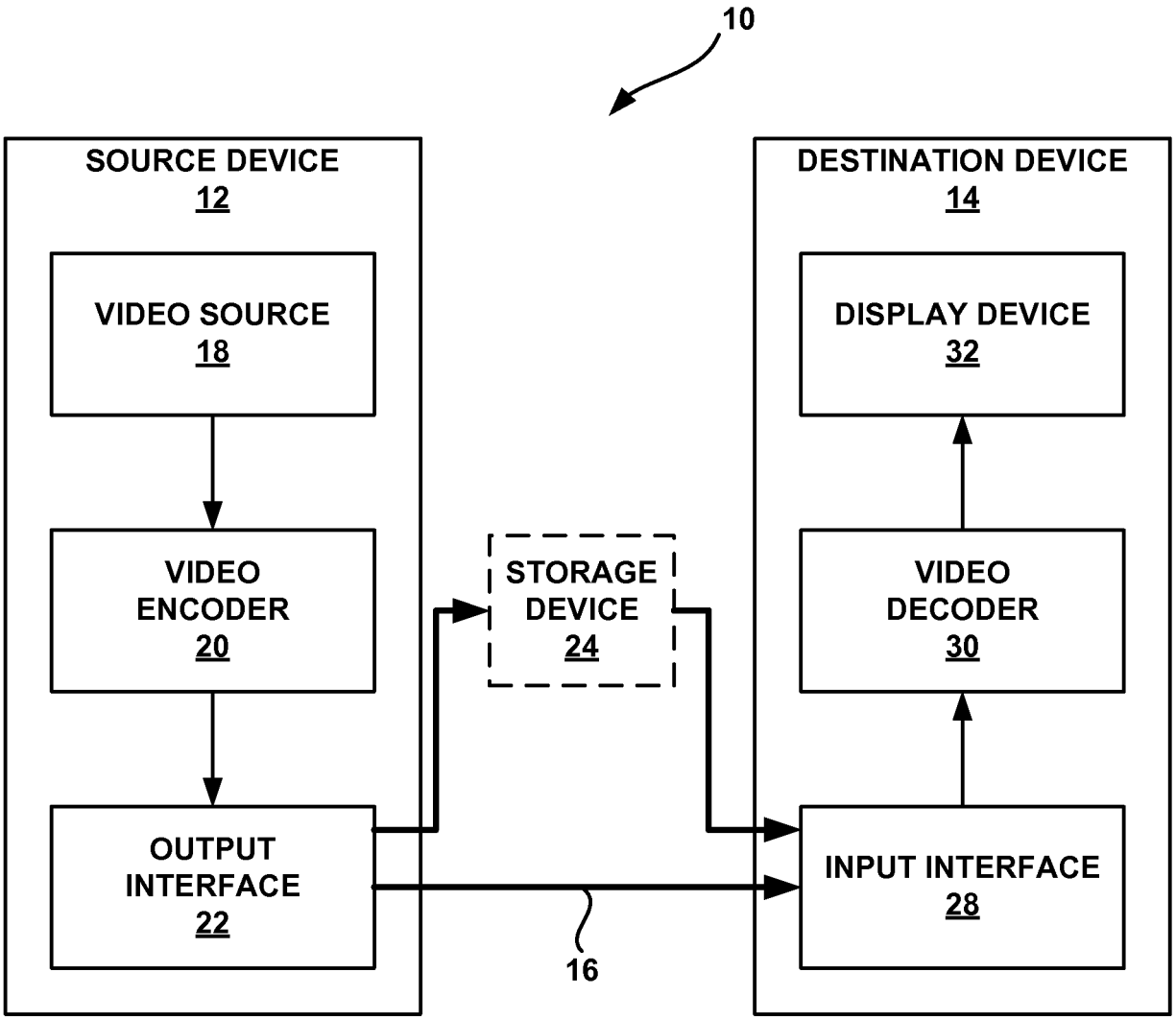
10
SOURCE DEVICE
12
VIDEO SOURCE
18
VIDEO
ENCODER
20
OUTPUT
INTERFACE
22
STORAGE
DEVICE
24
16
DESTINATION DEVICE
14
DISPLAY DEVICE
32
VIDEO
DECODER
30
INPUT INTERFACE
28

FIG. 1

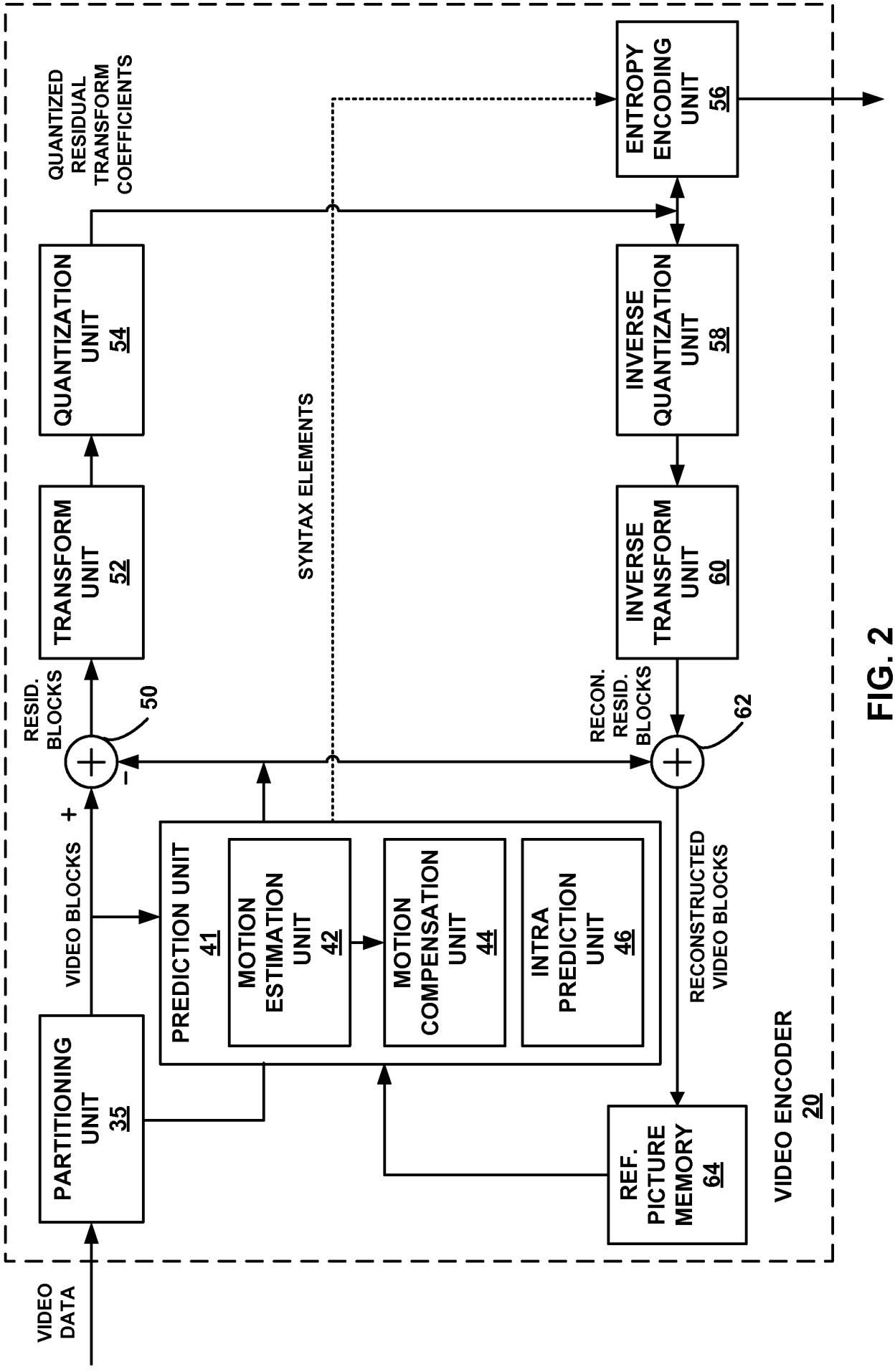
VIDEO ENCODER
20
VIDEO DATA
PARTITIONING UNIT
35
PREDICTION UNIT
41
MOTION ESTIMATION UNIT
42
MOTION COMPENSATION UNIT
44
INTRA PREDICTION UNIT
46
REF. PICTURE MEMORY
64
VIDEO BLOCKS
+
RESID. BLOCKS
50
TRANSFORM UNIT
52
QUANTIZATION UNIT
54
QUANTIZED RESIDUAL TRANSFORM COEFFICIENTS
SYNTAX ELEMENTS
ENTROPY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

FIG. 2

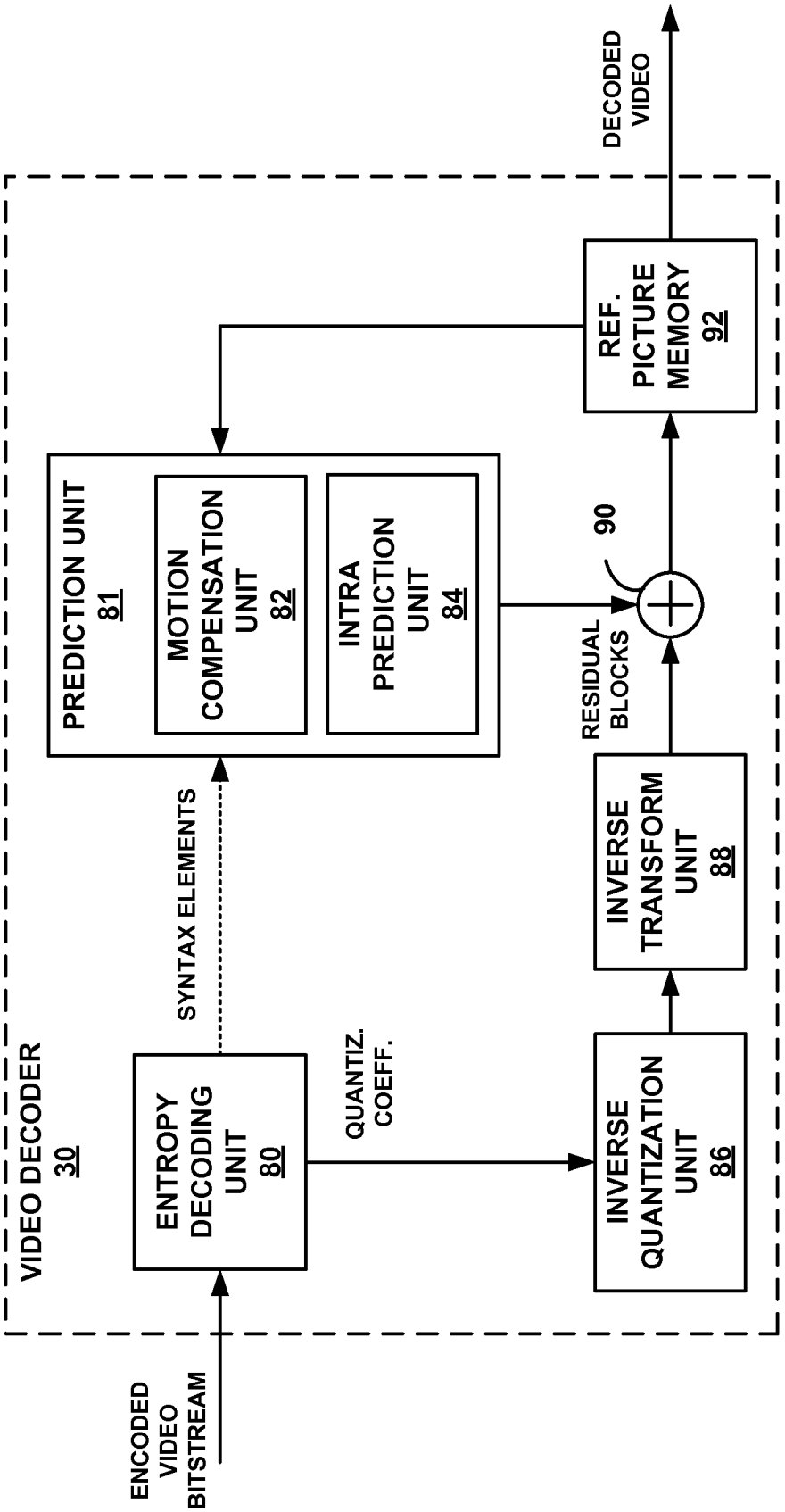
VIDEO DECODER
30
ENTROPY DECODING UNIT
80
PREDICTION UNIT
81
MOTION COMPENSATION UNIT
82
INTRA PREDICTION UNIT
84
INVERSE QUANTIZATION UNIT
86
INVERSE TRANSFORM UNIT
88
REF. PICTURE MEMORY
92
90
ENCODED VIDEO BITSTREAM
SYNTAX ELEMENTS
QUANTIZ. COEFF.
RESIDUAL BLOCKS
DECODED VIDEO

FIG. 3

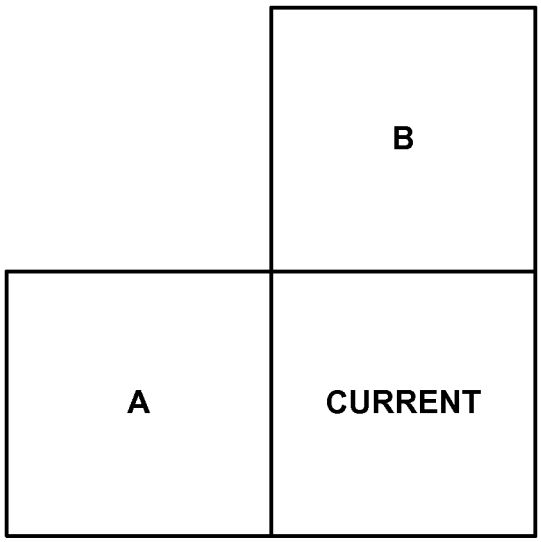

FIG. 4

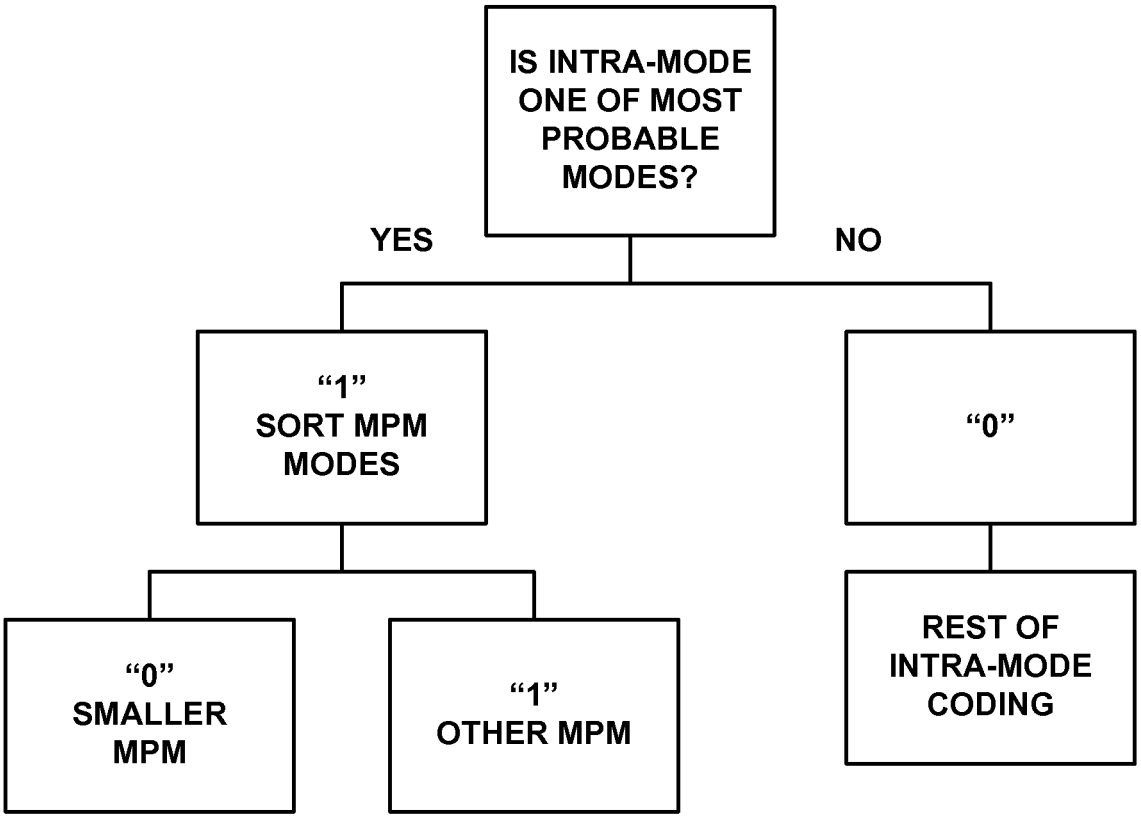
IS INTRA-MODE ONE OF MOST PROBABLE MODES?
YES
NO
"1" SORT MPM MODES
"0"
"0" SMALLER MPM
"1" OTHER MPM
REST OF INTRA-MODE CODING

FIG. 5

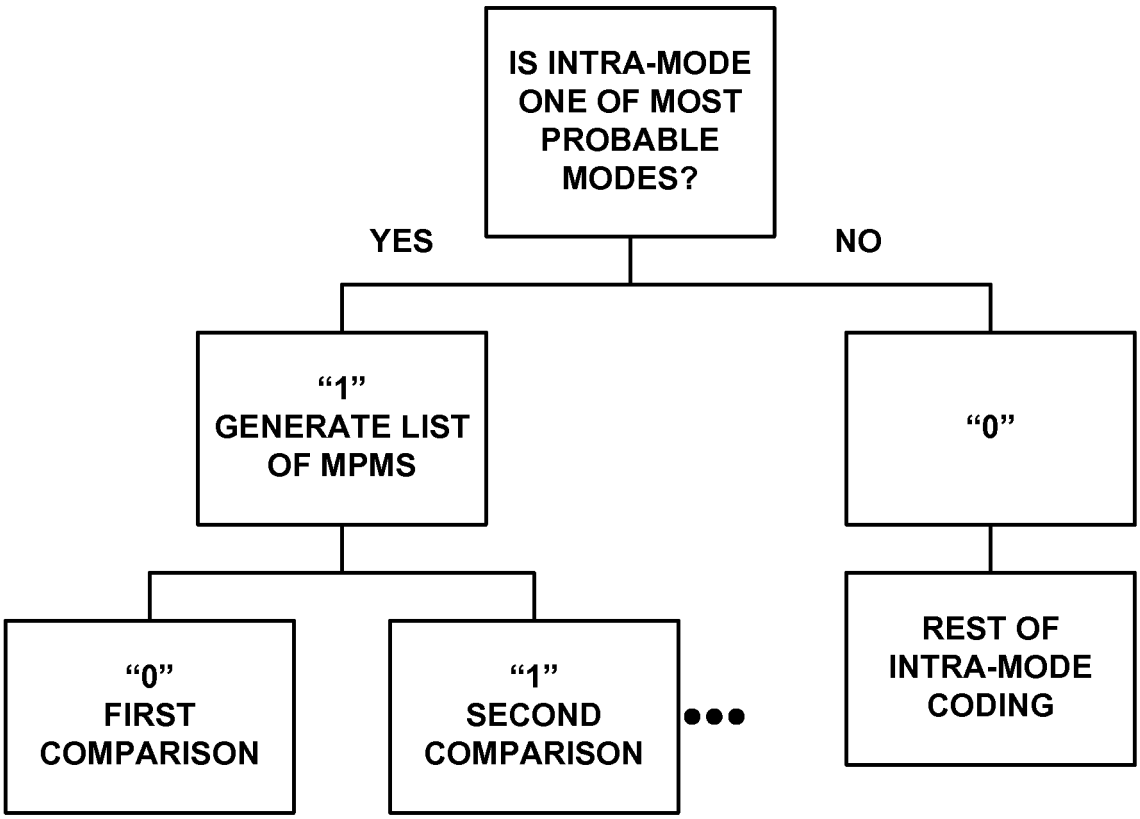
IS INTRA-MODE ONE OF MOST PROBABLE MODES?
YES
NO
"1" GENERATE LIST OF MPMS
"0"
"0" FIRST COMPARISON
"1" SECOND COMPARISON
REST OF INTRA-MODE CODING

FIG. 6

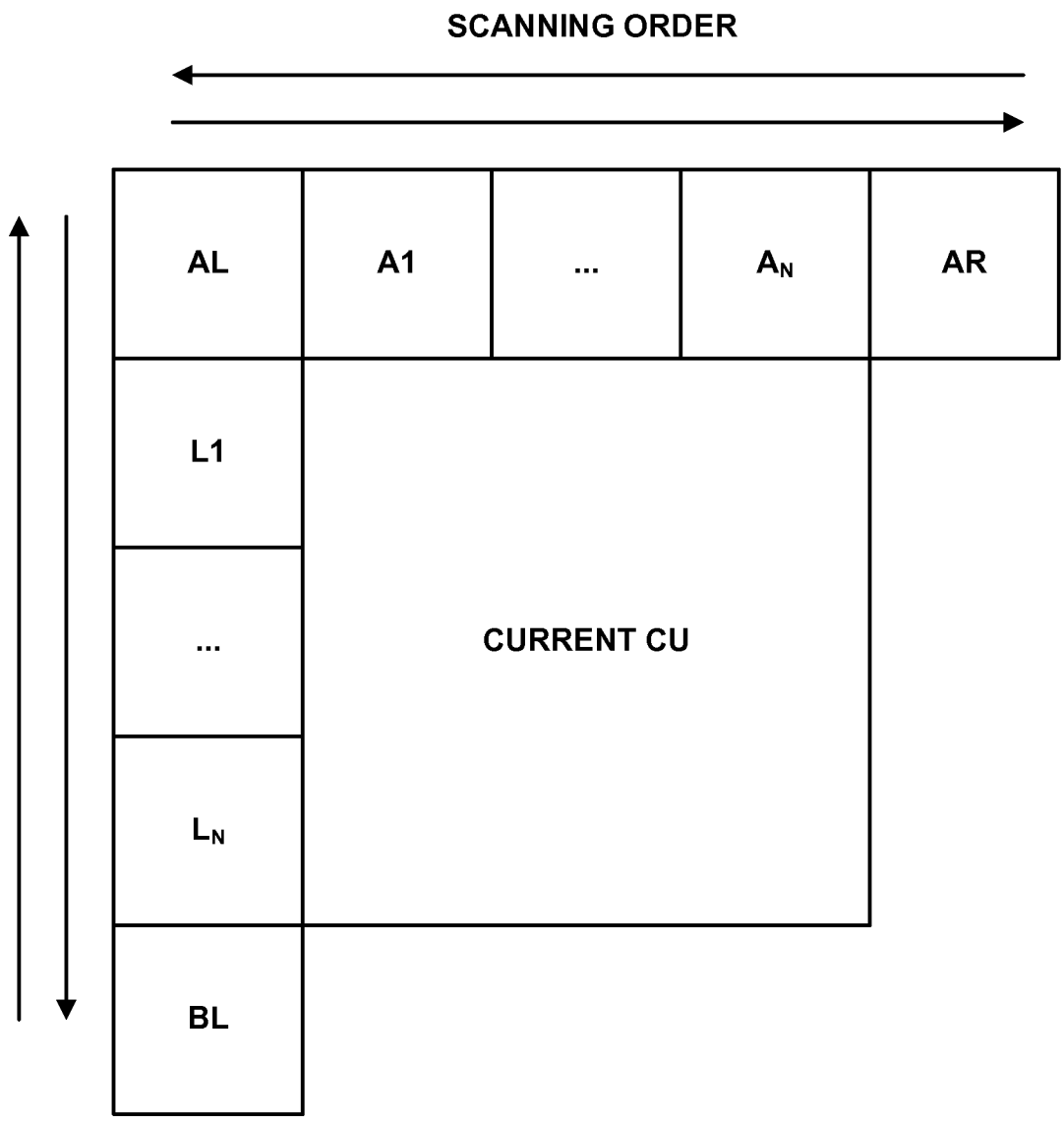

FIG. 7

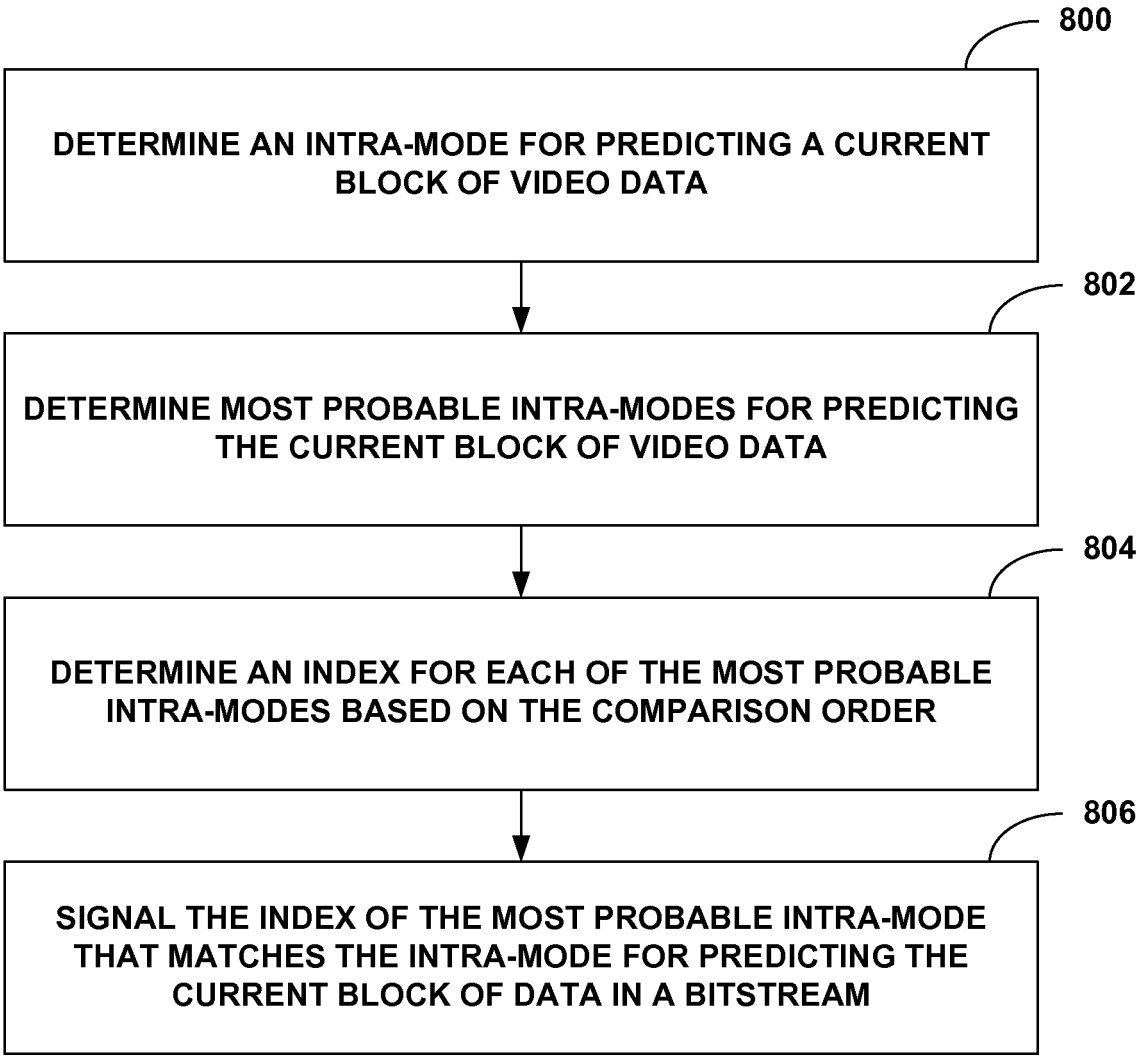
800
DETERMINE AN INTRA-MODE FOR PREDICTING A CURRENT BLOCK OF VIDEO DATA
802
DETERMINE MOST PROBABLE INTRA-MODES FOR PREDICTING THE CURRENT BLOCK OF VIDEO DATA
804
DETERMINE AN INDEX FOR EACH OF THE MOST PROBABLE INTRA-MODES BASED ON THE COMPARISON ORDER
806
SIGNAL THE INDEX OF THE MOST PROBABLE INTRA-MODE THAT MATCHES THE INTRA-MODE FOR PREDICTING THE CURRENT BLOCK OF DATA IN A BITSTREAM

FIG. 8

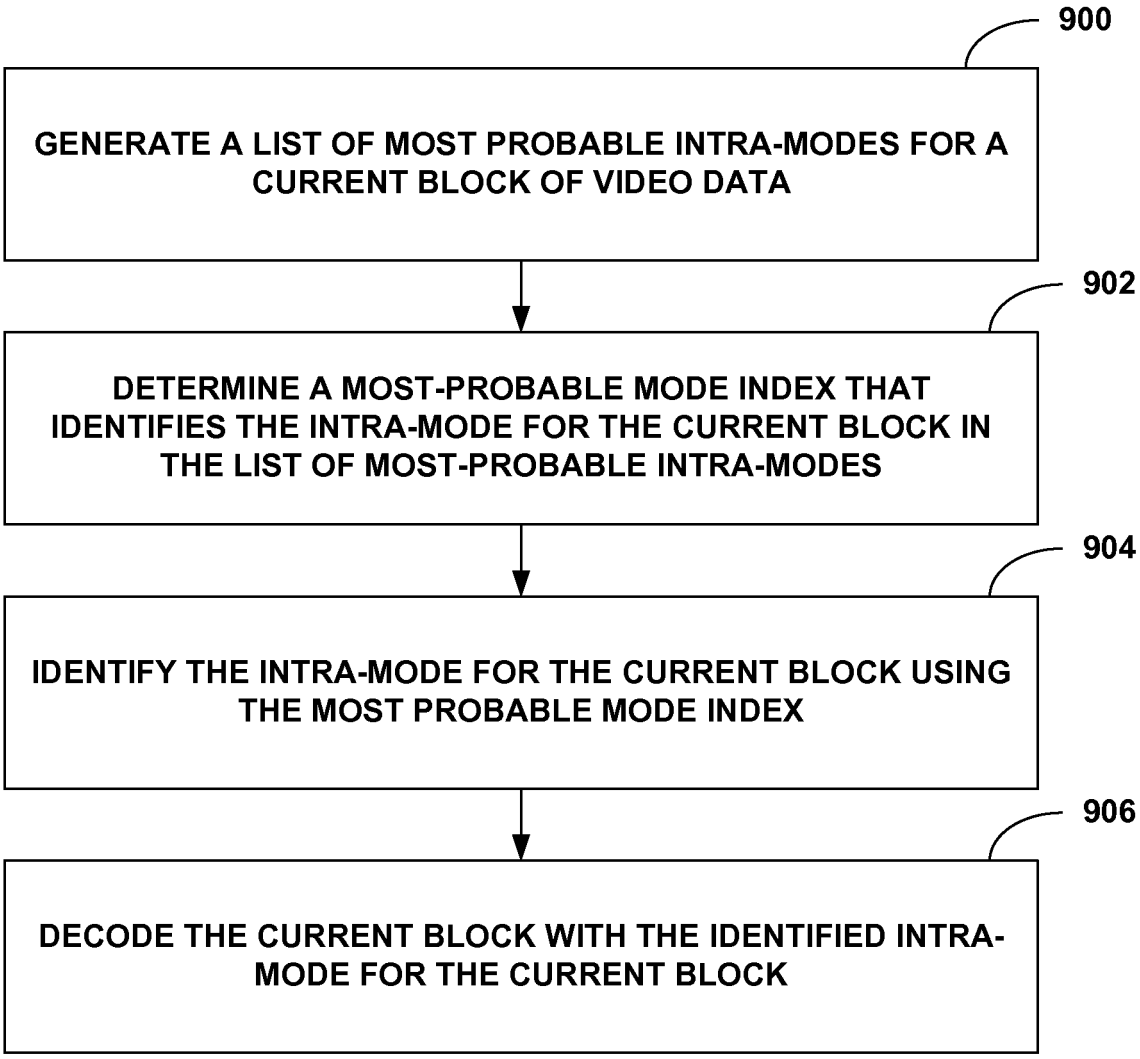
900
GENERATE A LIST OF MOST PROBABLE INTRA-MODES FOR A CURRENT BLOCK OF VIDEO DATA
902
DETERMINE A MOST-PROBABLE MODE INDEX THAT IDENTIFIES THE INTRA-MODE FOR THE CURRENT BLOCK IN THE LIST OF MOST-PROBABLE INTRA-MODES
904
IDENTIFY THE INTRA-MODE FOR THE CURRENT BLOCK USING THE MOST PROBABLE MODE INDEX
906
DECODE THE CURRENT BLOCK WITH THE IDENTIFIED INTRA-MODE FOR THE CURRENT BLOCK

FIG. 9

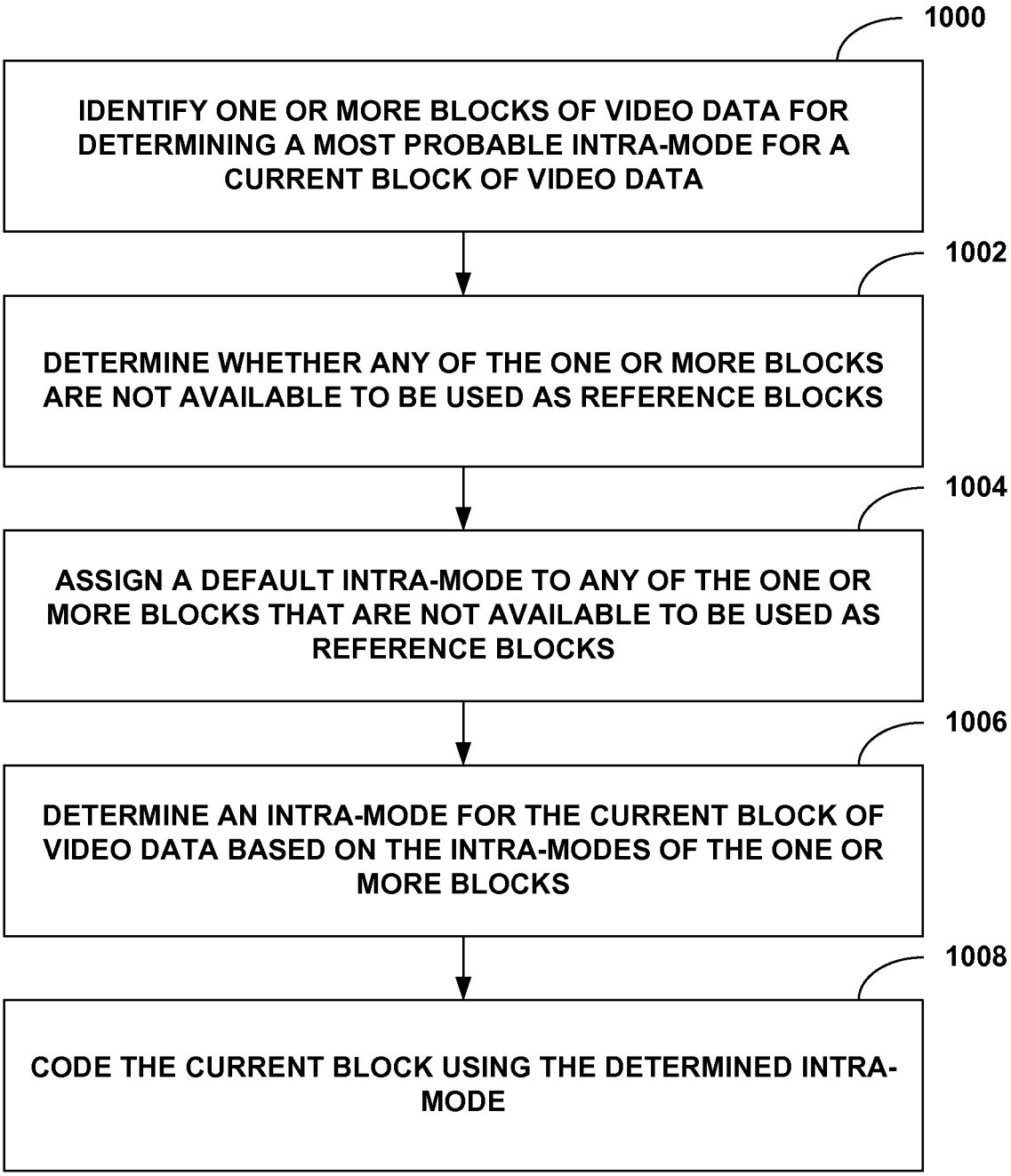
1000
IDENTIFY ONE OR MORE BLOCKS OF VIDEO DATA FOR DETERMINING A MOST PROBABLE INTRA-MODE FOR A CURRENT BLOCK OF VIDEO DATA
1002
DETERMINE WHETHER ANY OF THE ONE OR MORE BLOCKS ARE NOT AVAILABLE TO BE USED AS REFERENCE BLOCKS
1004
ASSIGN A DEFAULT INTRA-MODE TO ANY OF THE ONE OR MORE BLOCKS THAT ARE NOT AVAILABLE TO BE USED AS REFERENCE BLOCKS
1006
DETERMINE AN INTRA-MODE FOR THE CURRENT BLOCK OF VIDEO DATA BASED ON THE INTRA-MODES OF THE ONE OR MORE BLOCKS
1008
CODE THE CURRENT BLOCK USING THE DETERMINED INTRA-MODE

FIG. 10