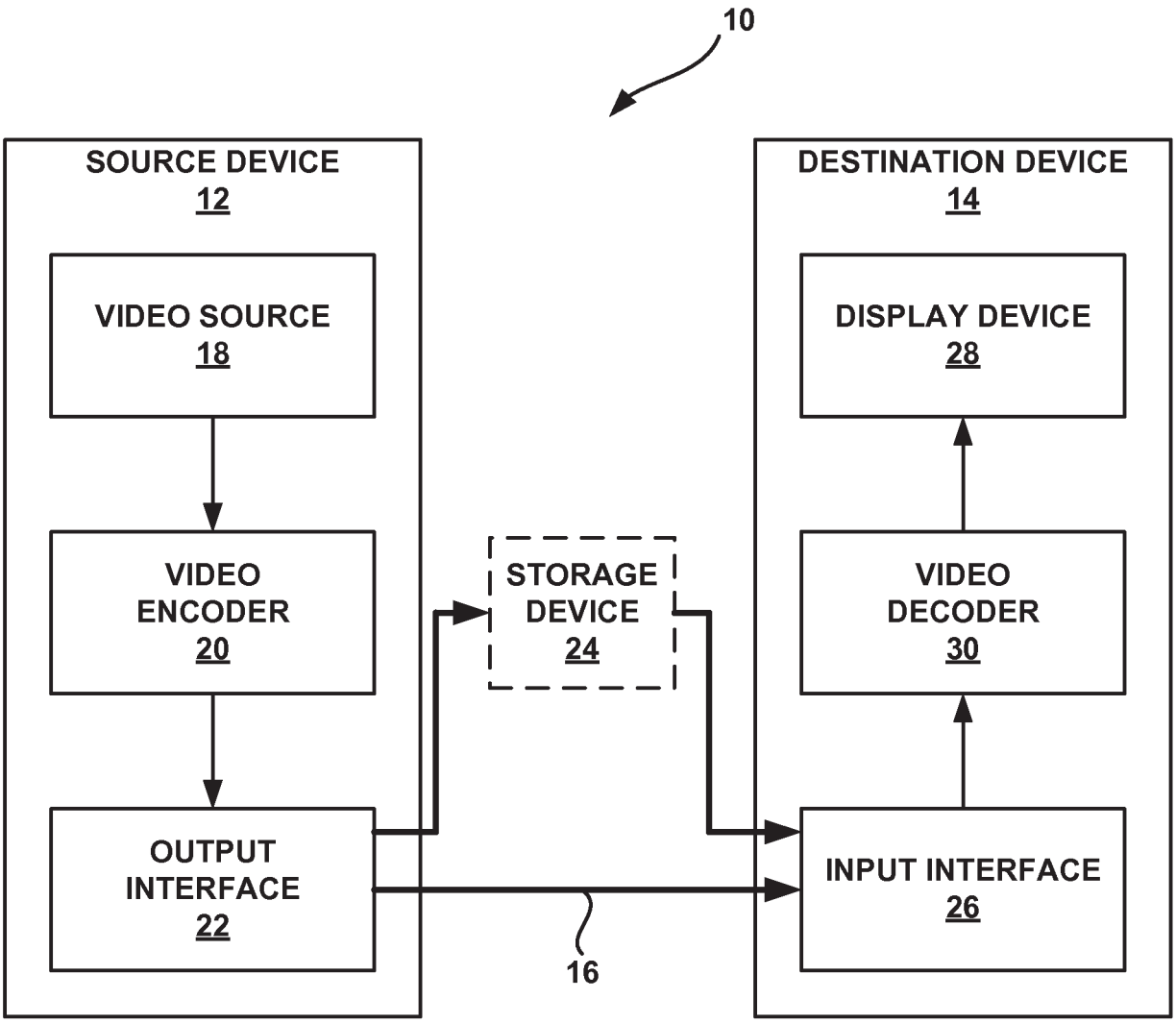
10
SOURCE DEVICE
12
VIDEO SOURCE
18
VIDEO
ENCODER
20
OUTPUT
INTERFACE
22
STORAGE
DEVICE
24
16
DESTINATION DEVICE
14
DISPLAY DEVICE
28
VIDEO
DECODER
30
INPUT INTERFACE
26

FIG. 1

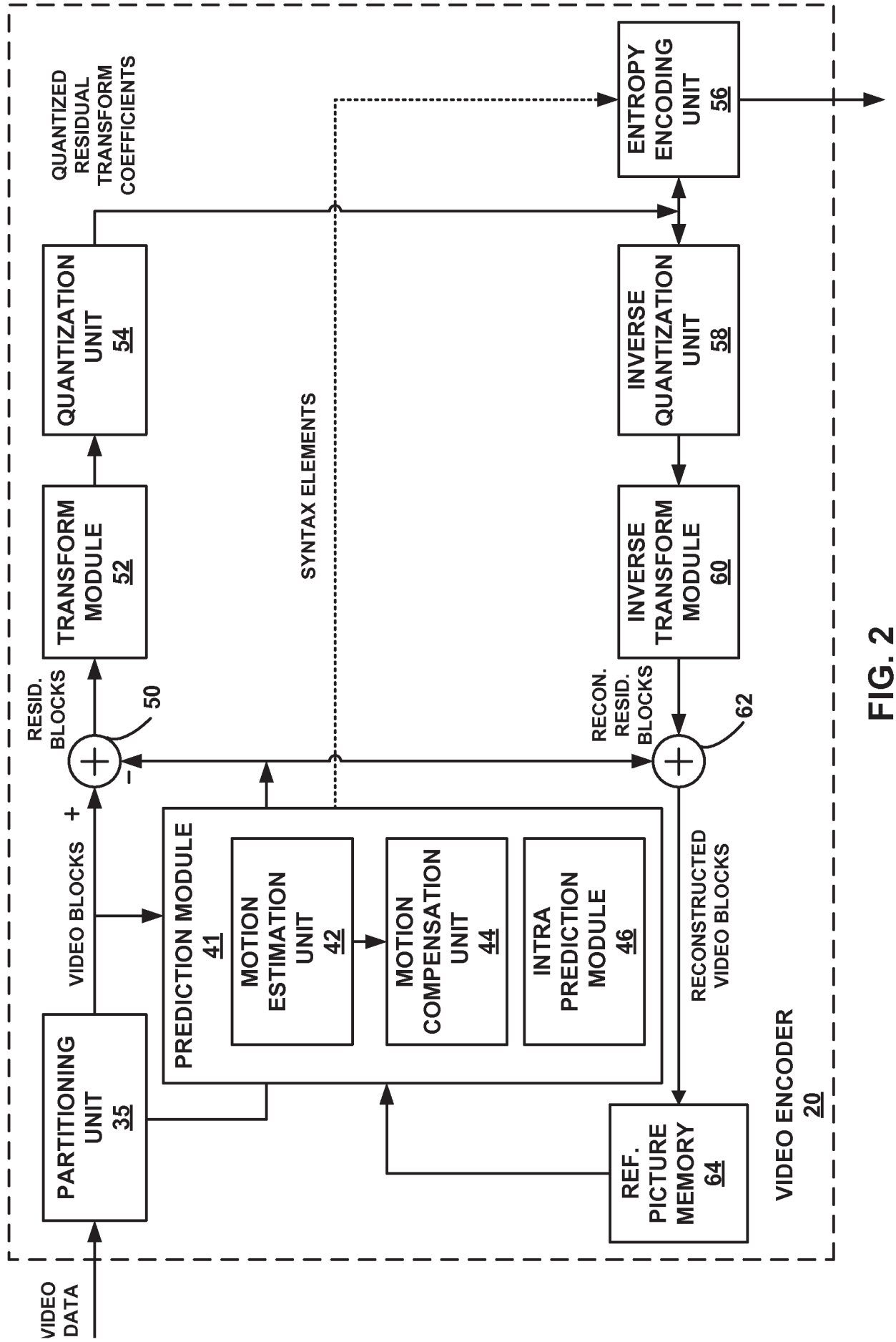
VIDEO ENCODER
20
VIDEO DATA
PARTITIONING UNIT
35
PREDICTION MODULE
41
MOTION ESTIMATION UNIT
42
MOTION COMPENSATION UNIT
44
INTRA PREDICTION MODULE
46
REF. PICTURE MEMORY
64
VIDEO BLOCKS
RESID. BLOCKS
50
TRANSFORM MODULE
52
QUANTIZATION UNIT
54
QUANTIZED RESIDUAL TRANSFORM COEFFICIENTS
SYNTAX ELEMENTS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

FIG. 2

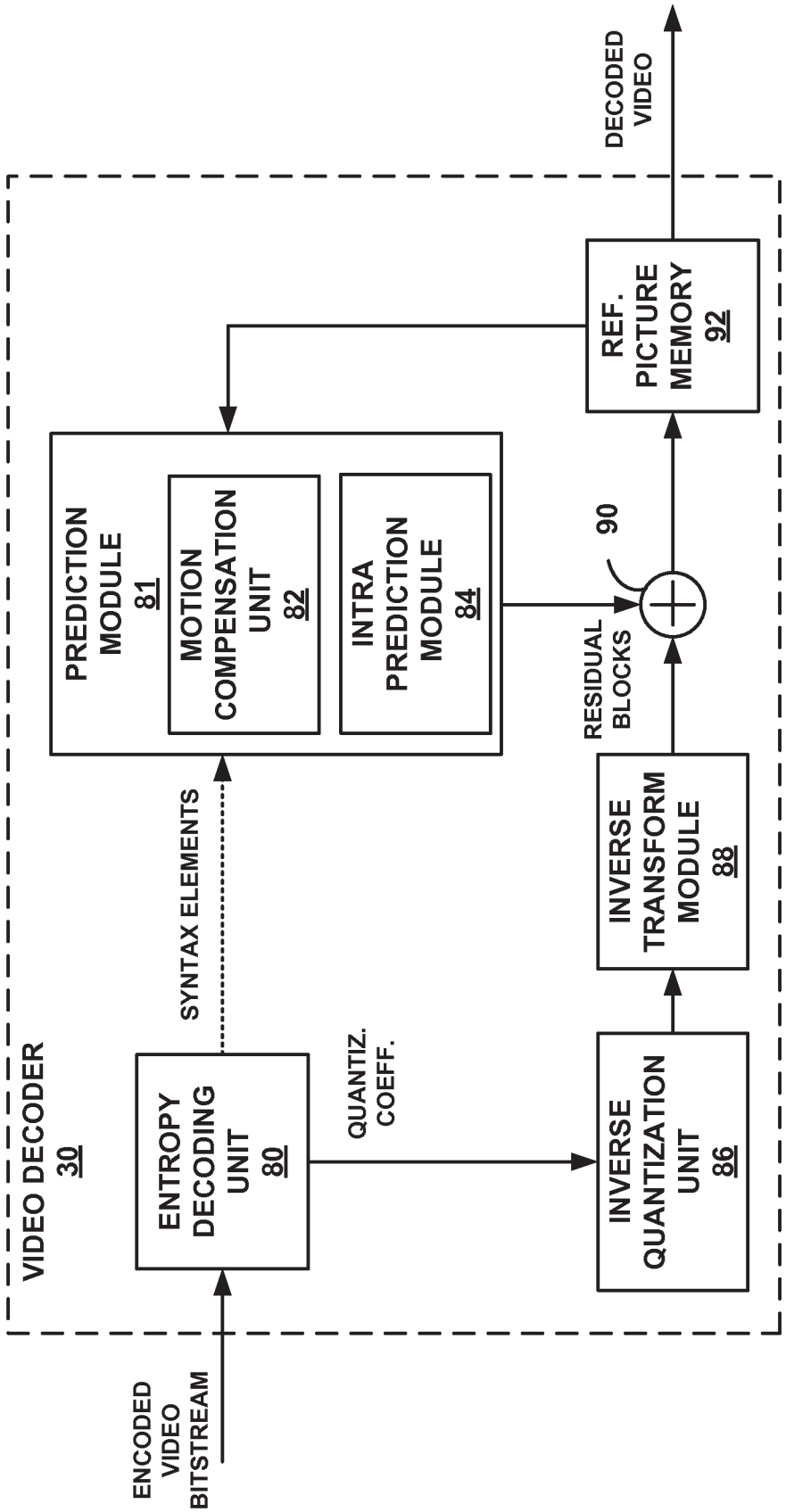
VIDEO DECODER
30
ENTROPY DECODING UNIT
80
SYNTAX ELEMENTS
PREDICTION MODULE
81
MOTION COMPENSATION UNIT
82
INTRA PREDICTION MODULE
84
QUANTIZ. COEFF.
INVERSE QUANTIZATION UNIT
86
INVERSE TRANSFORM MODULE
88
RESIDUAL BLOCKS
90
REF. PICTURE MEMORY
92
DECODED VIDEO
ENCODED VIDEO BITSTREAM

FIG. 3

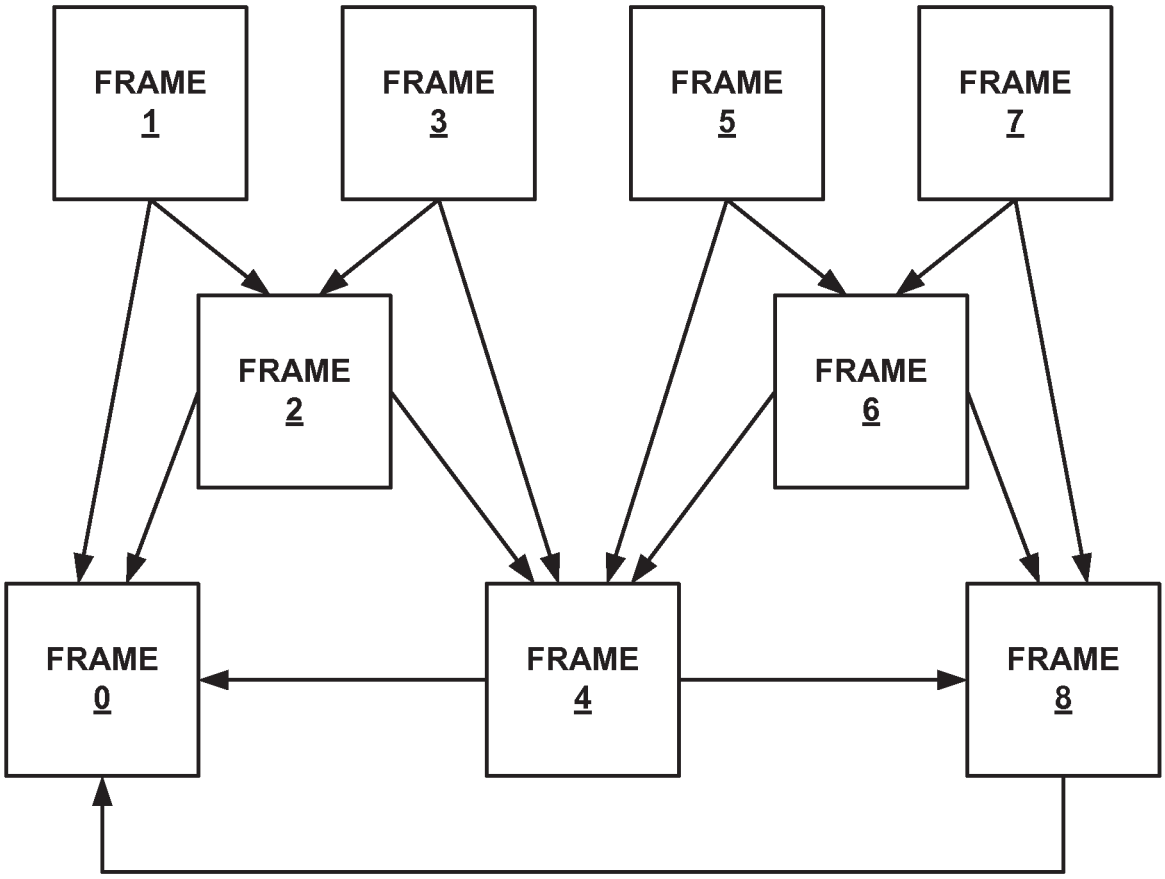
FRAME 1
FRAME 3
FRAME 5
FRAME 7
FRAME 2
FRAME 6
FRAME 0
FRAME 4
FRAME 8

FIG. 4

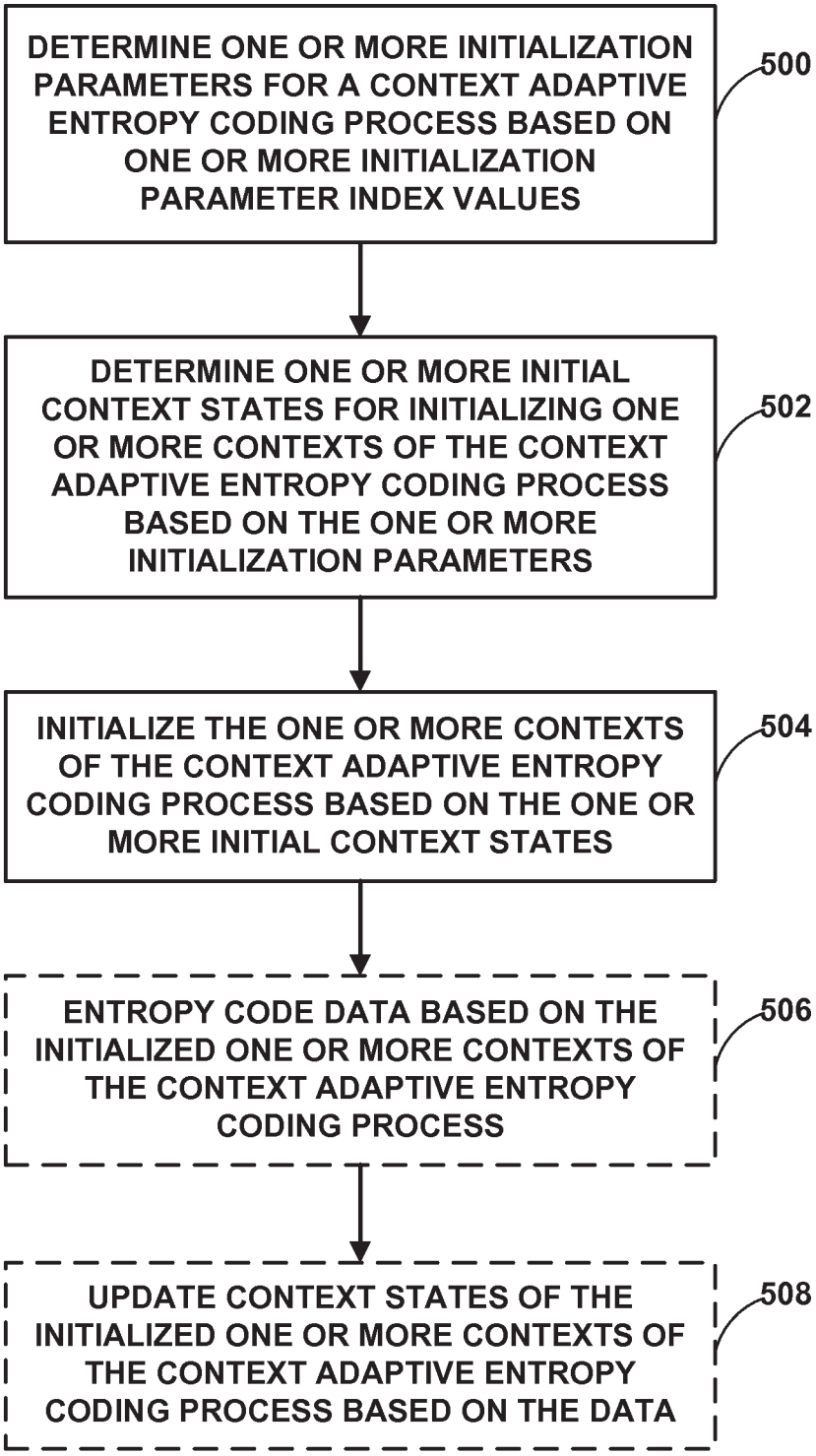
DETERMINE ONE OR MORE INITIALIZATION PARAMETERS FOR A CONTEXT ADAPTIVE ENTROPY CODING PROCESS BASED ON ONE OR MORE INITIALIZATION PARAMETER INDEX VALUES
500
DETERMINE ONE OR MORE INITIAL CONTEXT STATES FOR INITIALIZING ONE OR MORE CONTEXTS OF THE CONTEXT ADAPTIVE ENTROPY CODING PROCESS BASED ON THE ONE OR MORE INITIALIZATION PARAMETERS
502
INITIALIZE THE ONE OR MORE CONTEXTS OF THE CONTEXT ADAPTIVE ENTROPY CODING PROCESS BASED ON THE ONE OR MORE INITIAL CONTEXT STATES
504
ENTROPY CODE DATA BASED ON THE INITIALIZED ONE OR MORE CONTEXTS OF THE CONTEXT ADAPTIVE ENTROPY CODING PROCESS
506
UPDATE CONTEXT STATES OF THE INITIALIZED ONE OR MORE CONTEXTS OF THE CONTEXT ADAPTIVE ENTROPY CODING PROCESS BASED ON THE DATA
508

FIG. 5

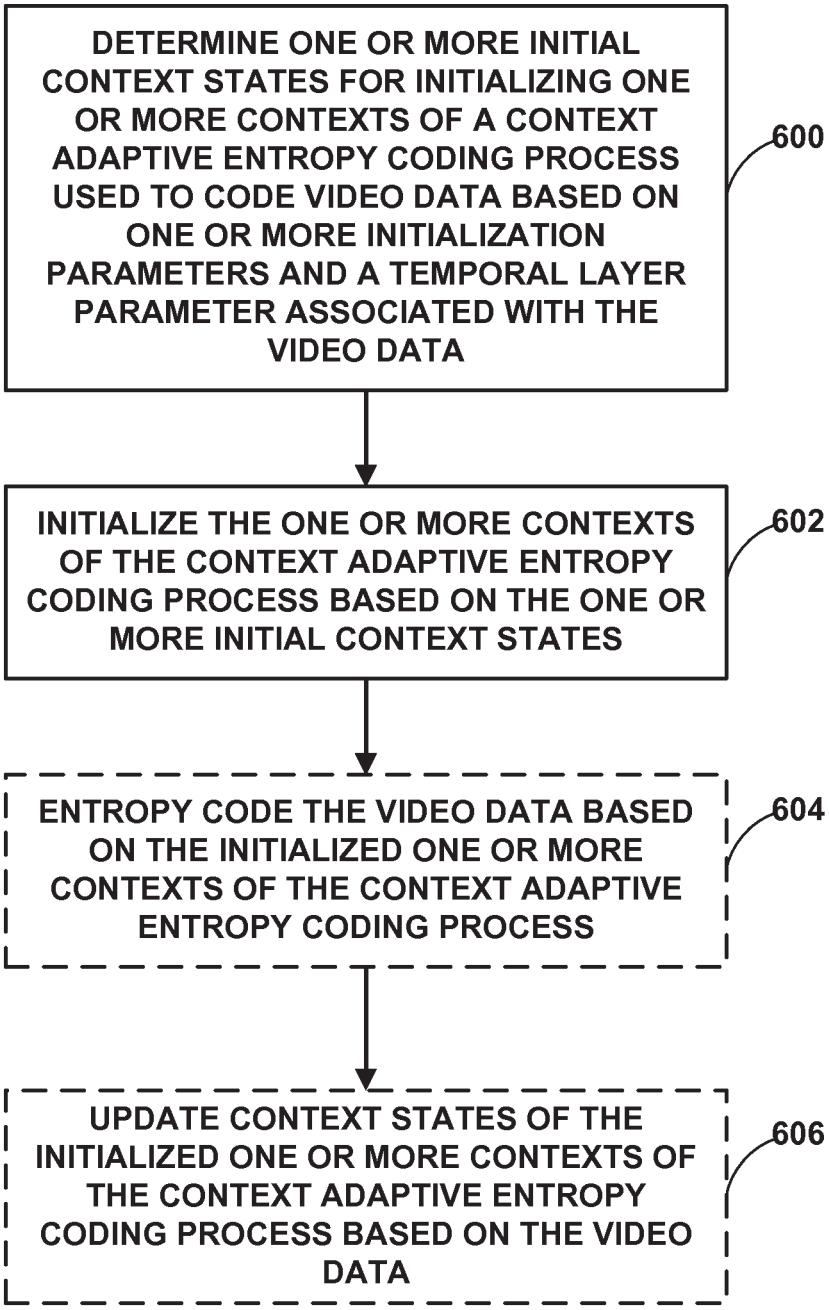
DETERMINE ONE OR MORE INITIAL CONTEXT STATES FOR INITIALIZING ONE OR MORE CONTEXTS OF A CONTEXT ADAPTIVE ENTROPY CODING PROCESS USED TO CODE VIDEO DATA BASED ON ONE OR MORE INITIALIZATION PARAMETERS AND A TEMPORAL LAYER PARAMETER ASSOCIATED WITH THE VIDEO DATA
600
INITIALIZE THE ONE OR MORE CONTEXTS OF THE CONTEXT ADAPTIVE ENTROPY CODING PROCESS BASED ON THE ONE OR MORE INITIAL CONTEXT STATES
602
ENTROPY CODE THE VIDEO DATA BASED ON THE INITIALIZED ONE OR MORE CONTEXTS OF THE CONTEXT ADAPTIVE ENTROPY CODING PROCESS
604
UPDATE CONTEXT STATES OF THE INITIALIZED ONE OR MORE CONTEXTS OF THE CONTEXT ADAPTIVE ENTROPY CODING PROCESS BASED ON THE VIDEO DATA
606

FIG. 6

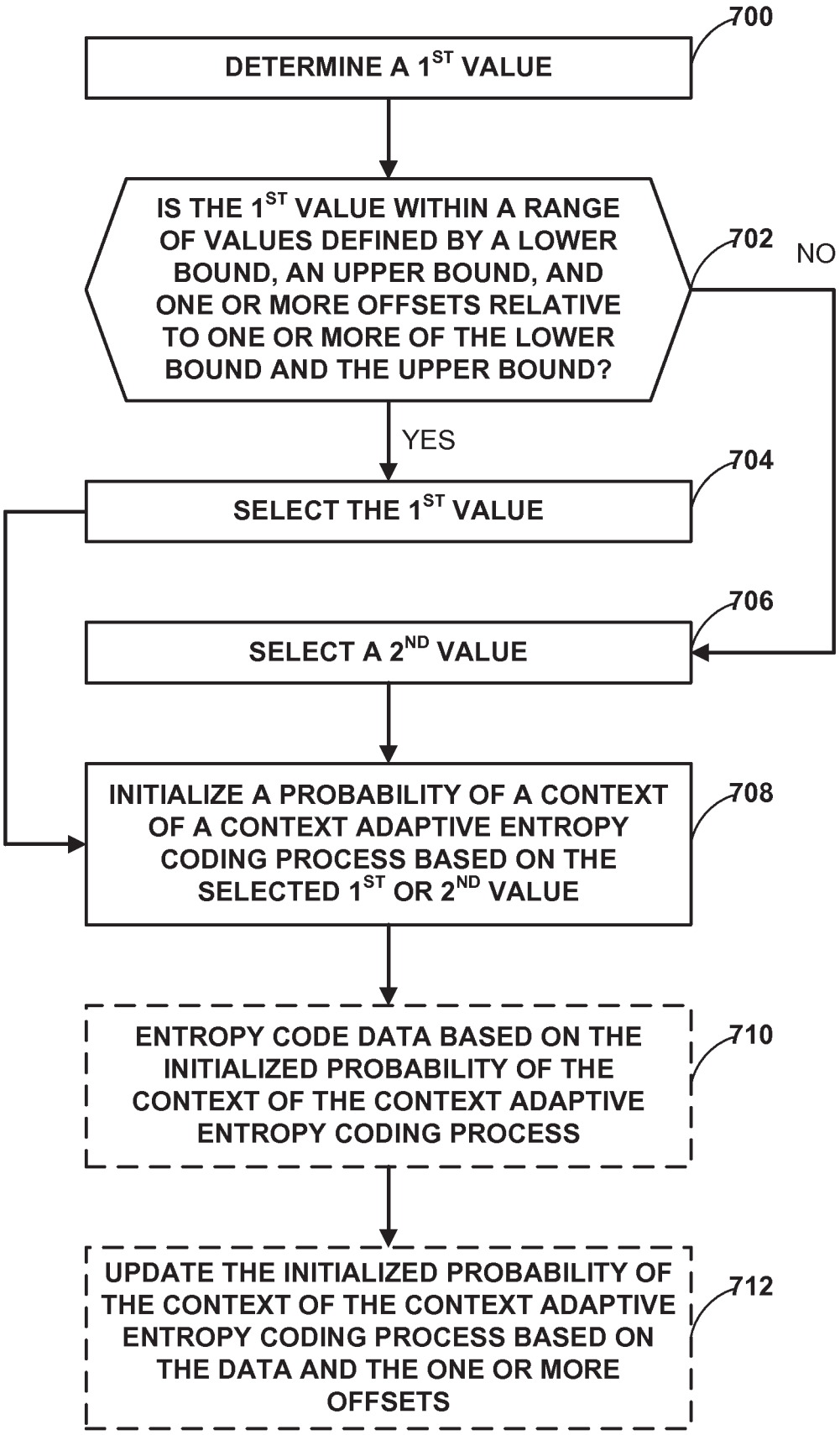
700
DETERMINE A 1ST VALUE
IS THE 1ST VALUE WITHIN A RANGE OF VALUES DEFINED BY A LOWER BOUND, AN UPPER BOUND, AND ONE OR MORE OFFSETS RELATIVE TO ONE OR MORE OF THE LOWER BOUND AND THE UPPER BOUND?
702
NO
YES
704
SELECT THE 1ST VALUE
706
SELECT A 2ND VALUE
INITIALIZE A PROBABILITY OF A CONTEXT OF A CONTEXT ADAPTIVE ENTROPY CODING PROCESS BASED ON THE SELECTED 1ST OR 2ND VALUE
708
ENTROPY CODE DATA BASED ON THE INITIALIZED PROBABILITY OF THE CONTEXT OF THE CONTEXT ADAPTIVE ENTROPY CODING PROCESS
710
UPDATE THE INITIALIZED PROBABILITY OF THE CONTEXT OF THE CONTEXT ADAPTIVE ENTROPY CODING PROCESS BASED ON THE DATA AND THE ONE OR MORE OFFSETS
712

FIG. 7

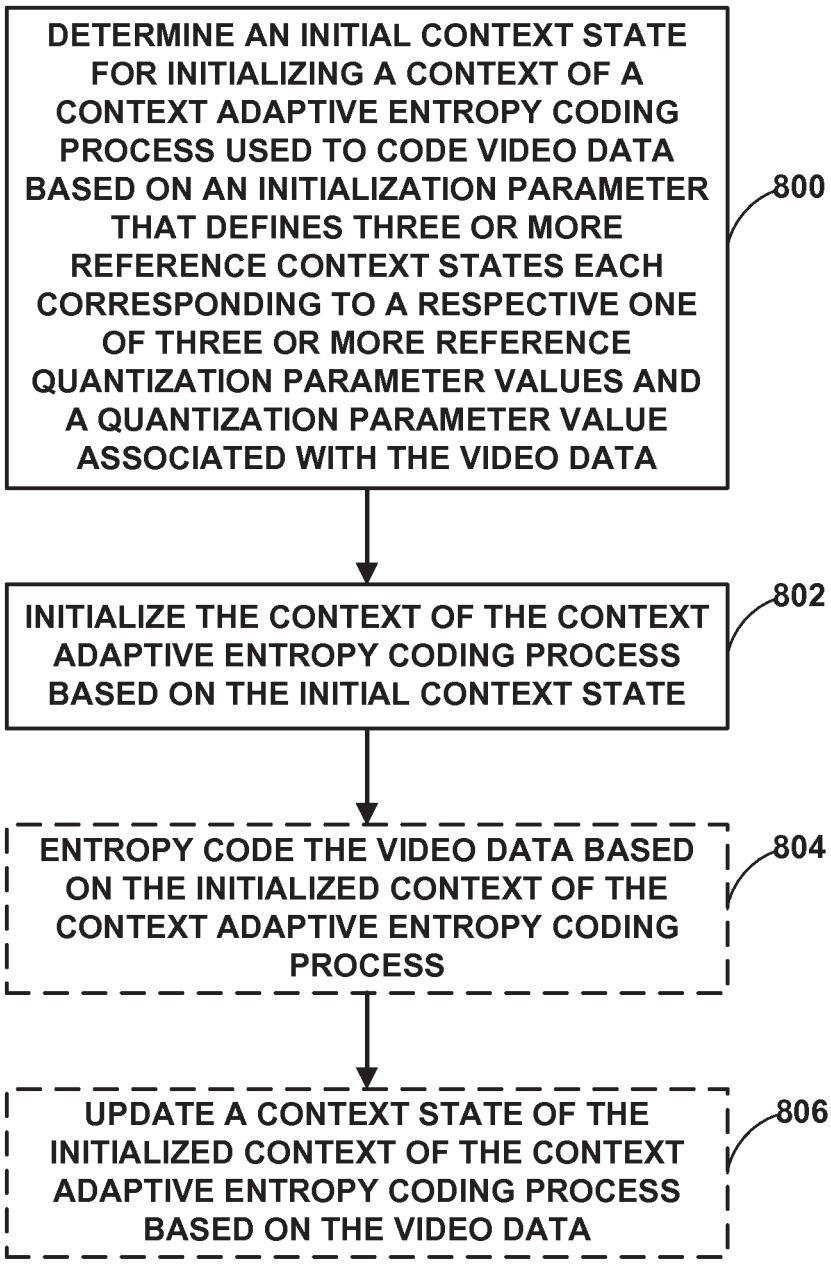
DETERMINE AN INITIAL CONTEXT STATE FOR INITIALIZING A CONTEXT OF A CONTEXT ADAPTIVE ENTROPY CODING PROCESS USED TO CODE VIDEO DATA BASED ON AN INITIALIZATION PARAMETER THAT DEFINES THREE OR MORE REFERENCE CONTEXT STATES EACH CORRESPONDING TO A RESPECTIVE ONE OF THREE OR MORE REFERENCE QUANTIZATION PARAMETER VALUES AND A QUANTIZATION PARAMETER VALUE ASSOCIATED WITH THE VIDEO DATA
800
INITIALIZE THE CONTEXT OF THE CONTEXT ADAPTIVE ENTROPY CODING PROCESS BASED ON THE INITIAL CONTEXT STATE
802
ENTROPY CODE THE VIDEO DATA BASED ON THE INITIALIZED CONTEXT OF THE CONTEXT ADAPTIVE ENTROPY CODING PROCESS
804
UPDATE A CONTEXT STATE OF THE INITIALIZED CONTEXT OF THE CONTEXT ADAPTIVE ENTROPY CODING PROCESS BASED ON THE VIDEO DATA
806

FIG. 8