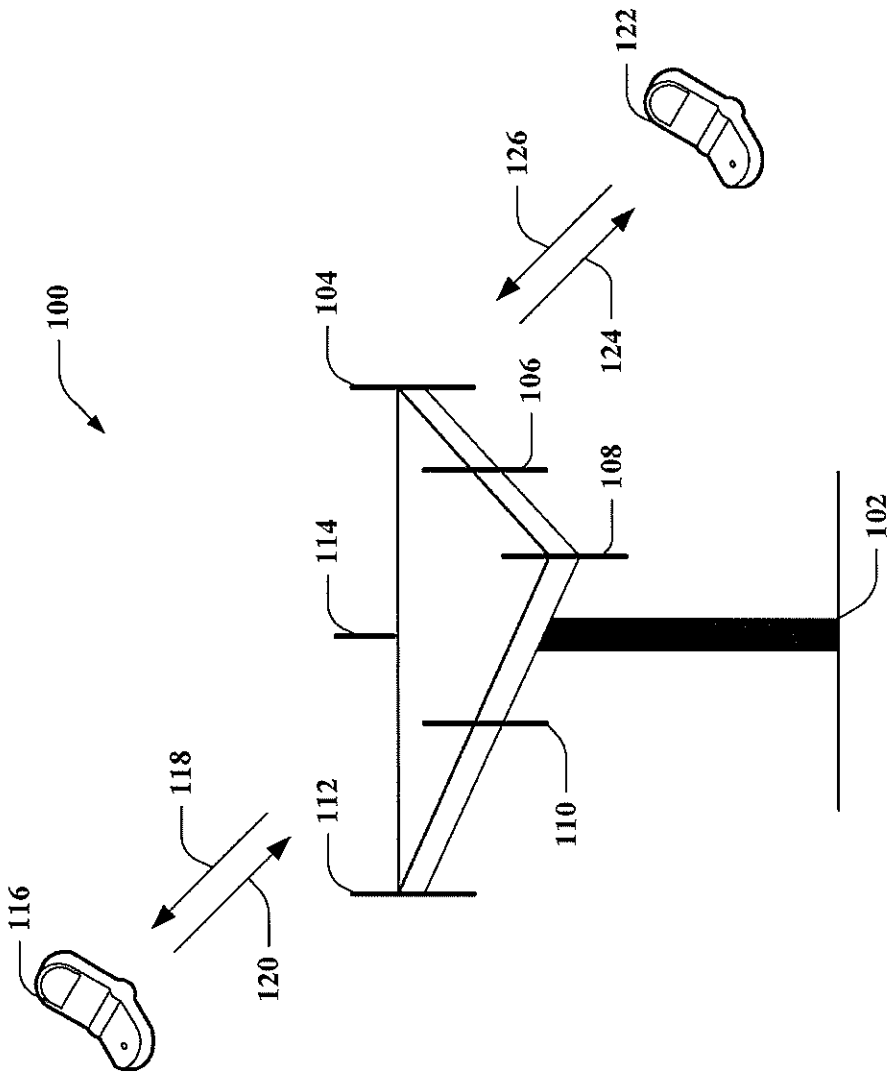


FIG. 1

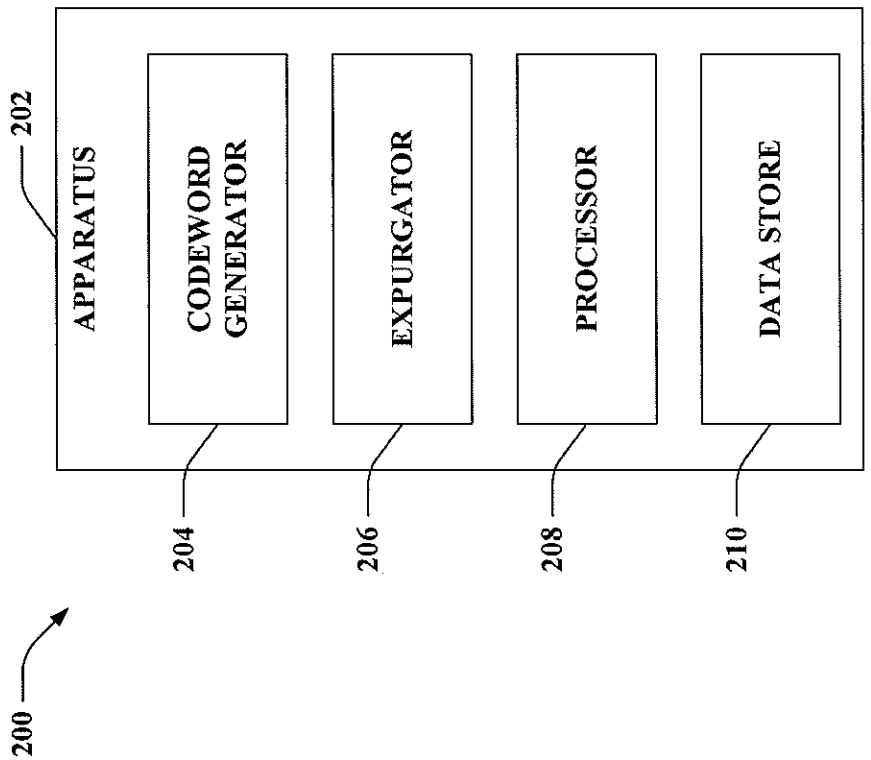

200
202
APPARATUS
CODEWORD GENERATOR
EXPURGATOR
PROCESSOR
DATA STORE
204
206
208
210

FIG. 2

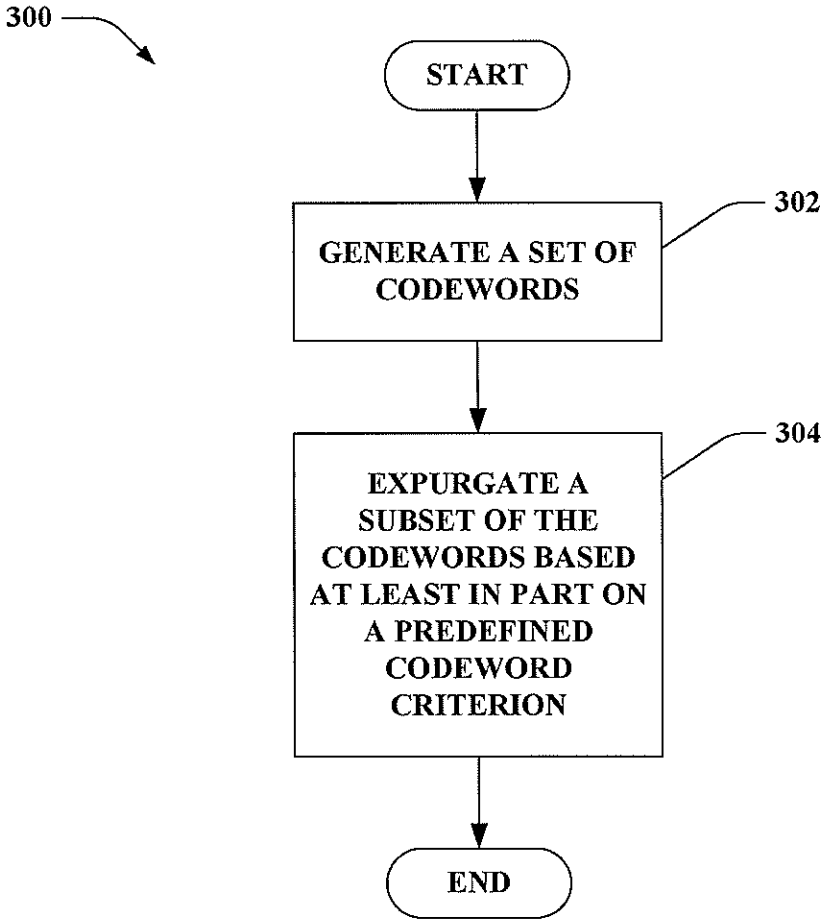

300
START
GENERATE A SET OF CODEWORDS
302
EXPURGATE A SUBSET OF THE CODEWORDS BASED AT LEAST IN PART ON A PREDEFINED CODEWORD CRITERION
304
END

FIG. 3

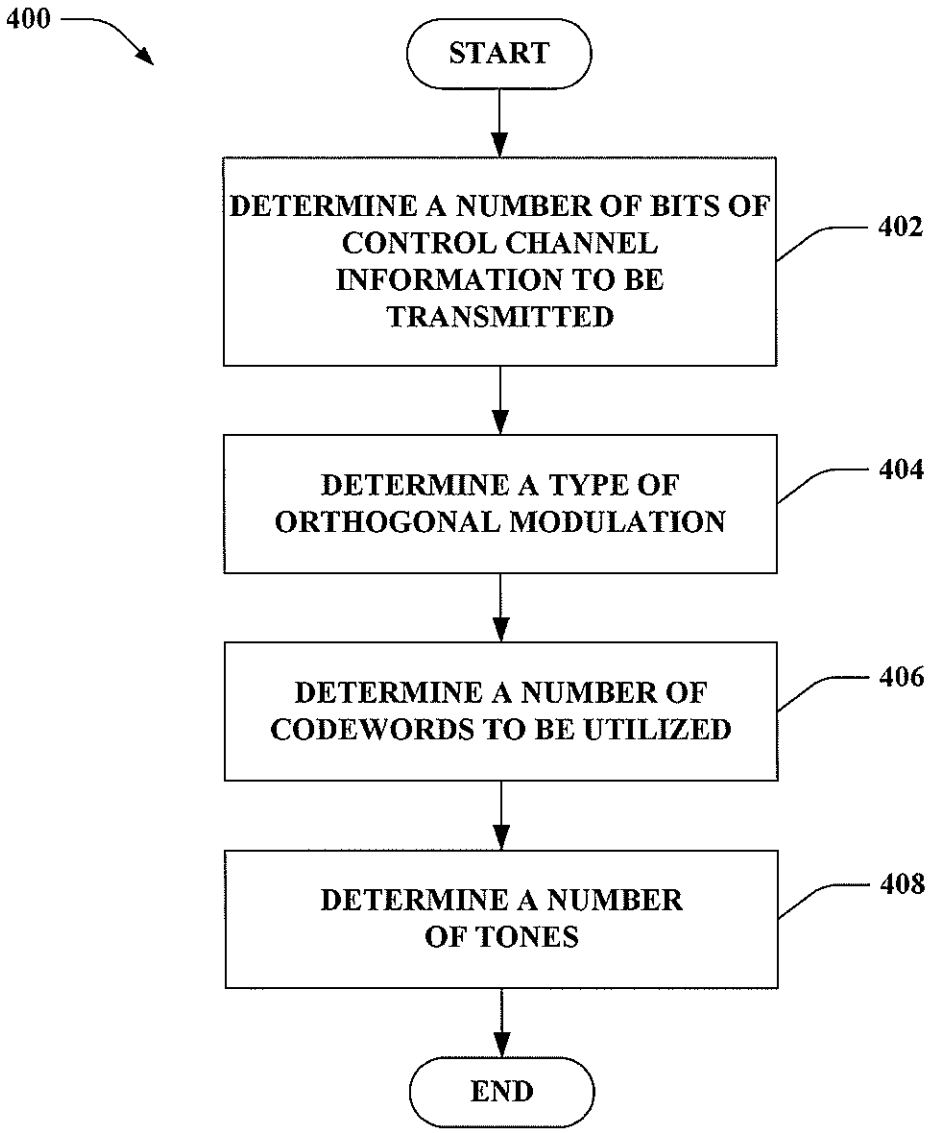

400
START
DETERMINE A NUMBER OF BITS OF CONTROL CHANNEL INFORMATION TO BE TRANSMITTED
402
DETERMINE A TYPE OF ORTHOGONAL MODULATION
404
DETERMINE A NUMBER OF CODEWORDS TO BE UTILIZED
406
DETERMINE A NUMBER OF TONES
408
END

FIG. 4

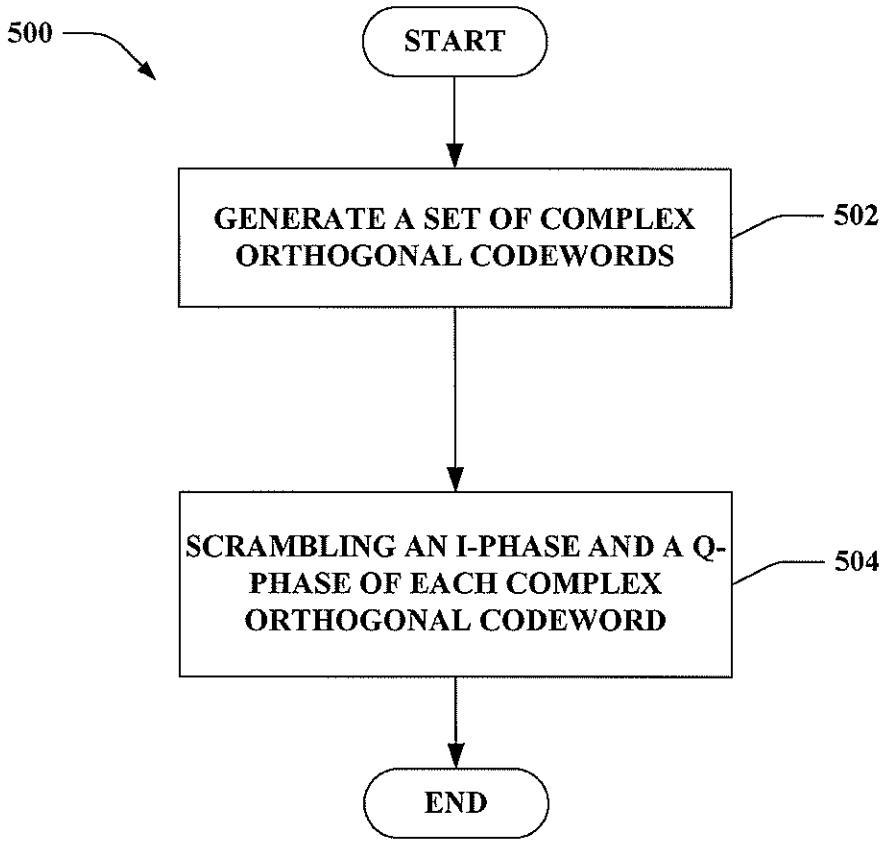

500
START
GENERATE A SET OF COMPLEX ORTHOGONAL CODEWORDS
502
SCRAMBLING AN I-PHASE AND A Q-PHASE OF EACH COMPLEX ORTHOGONAL CODEWORD
504
END

FIG. 5

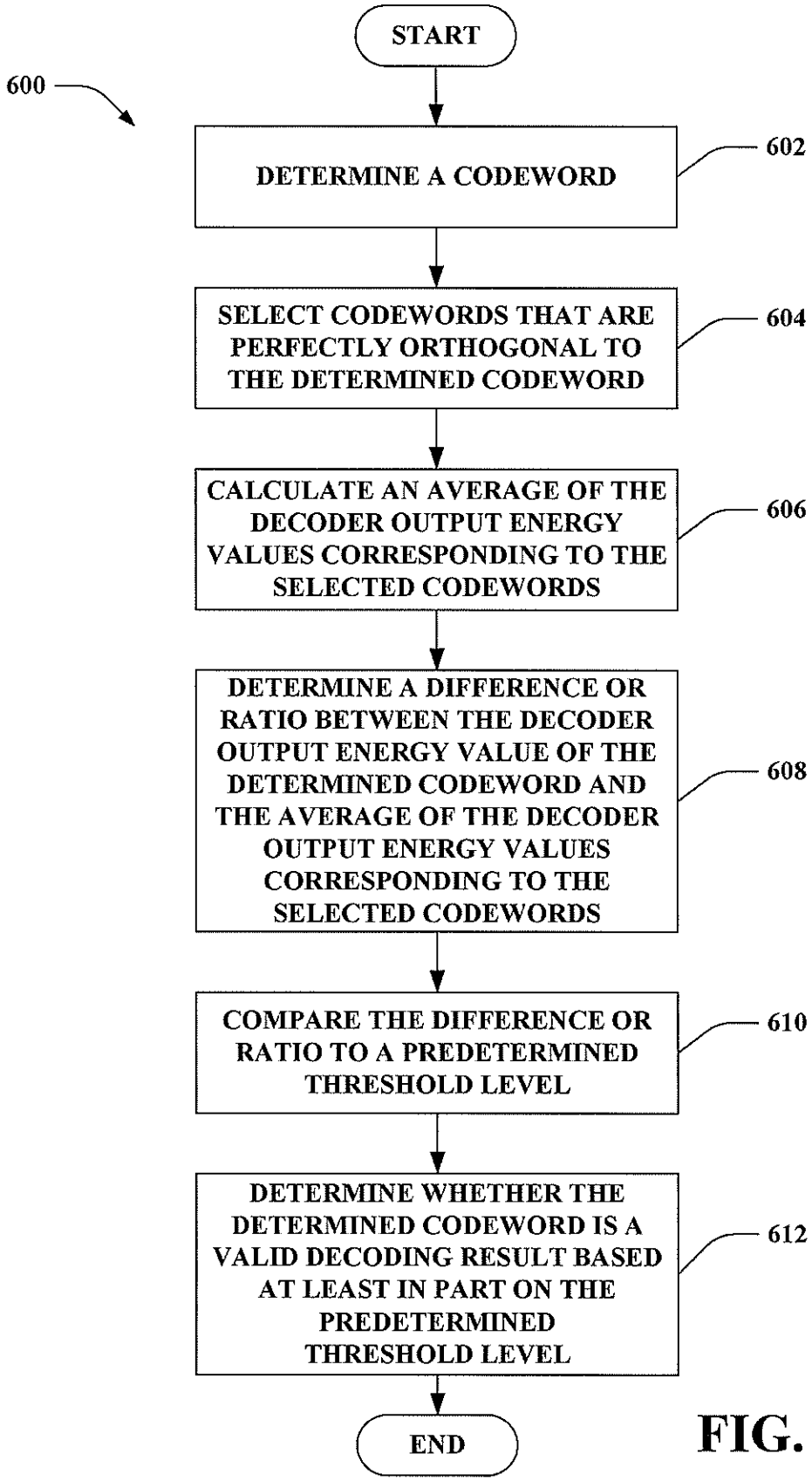

START
600
DETERMINE A CODEWORD
602
SELECT CODEWORDS THAT ARE PERFECTLY ORTHOGONAL TO THE DETERMINED CODEWORD
604
CALCULATE AN AVERAGE OF THE DECODER OUTPUT ENERGY VALUES CORRESPONDING TO THE SELECTED CODEWORDS
606
DETERMINE A DIFFERENCE OR RATIO BETWEEN THE DECODER OUTPUT ENERGY VALUE OF THE DETERMINED CODEWORD AND THE AVERAGE OF THE DECODER OUTPUT ENERGY VALUES CORRESPONDING TO THE SELECTED CODEWORDS
608
COMPARE THE DIFFERENCE OR RATIO TO A PREDETERMINED THRESHOLD LEVEL
610
DETERMINE WHETHER THE DETERMINED CODEWORD IS A VALID DECODING RESULT BASED AT LEAST IN PART ON THE PREDETERMINED THRESHOLD LEVEL
612
END

FIG. 6

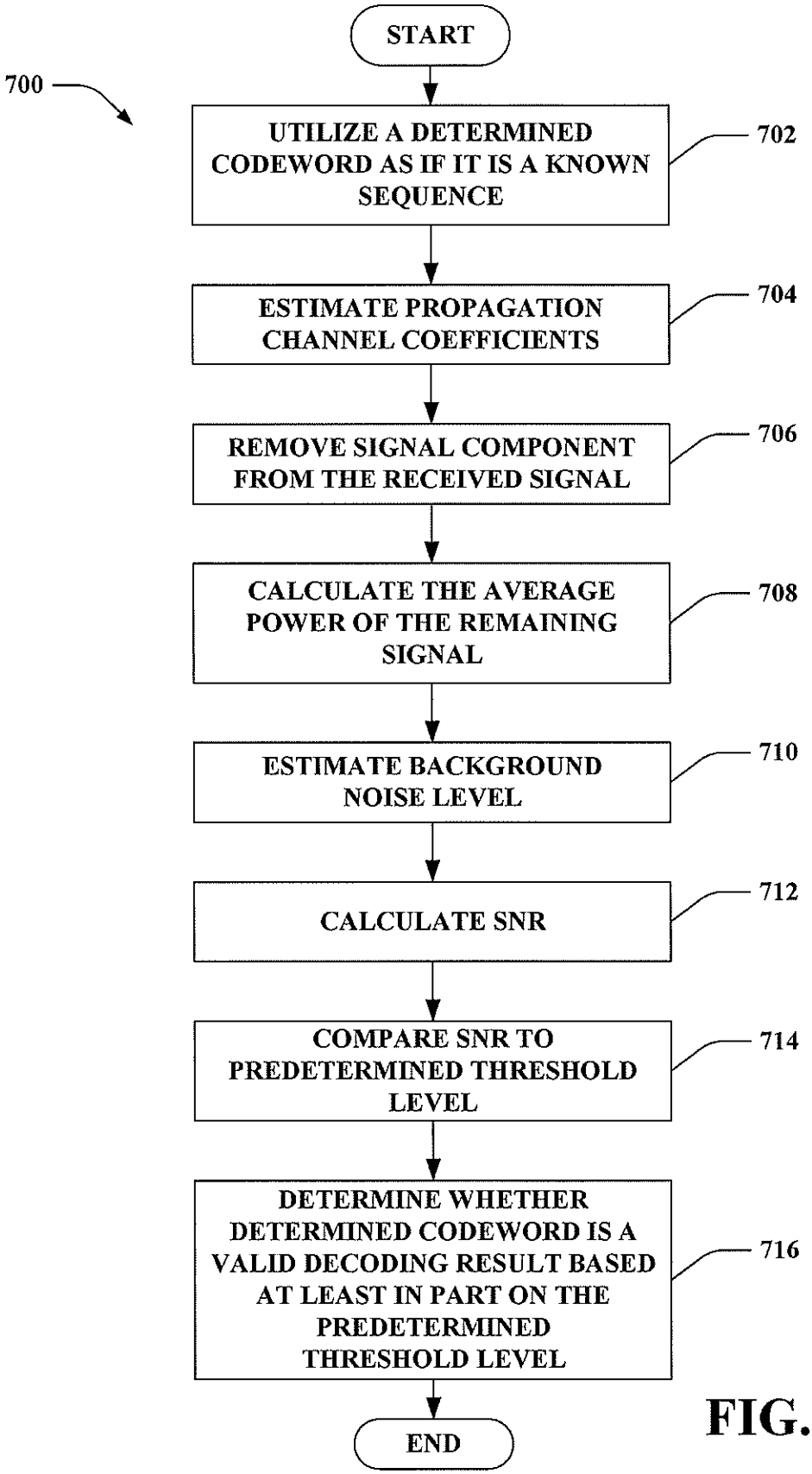

START
700
UTILIZE A DETERMINED CODEWORD AS IF IT IS A KNOWN SEQUENCE
702
ESTIMATE PROPAGATION CHANNEL COEFFICIENTS
704
REMOVE SIGNAL COMPONENT FROM THE RECEIVED SIGNAL
706
CALCULATE THE AVERAGE POWER OF THE REMAINING SIGNAL
708
ESTIMATE BACKGROUND NOISE LEVEL
710
CALCULATE SNR
712
COMPARE SNR TO PREDETERMINED THRESHOLD LEVEL
714
DETERMINE WHETHER DETERMINED CODEWORD IS A VALID DECODING RESULT BASED AT LEAST IN PART ON THE PREDETERMINED THRESHOLD LEVEL
716
END

FIG. 7

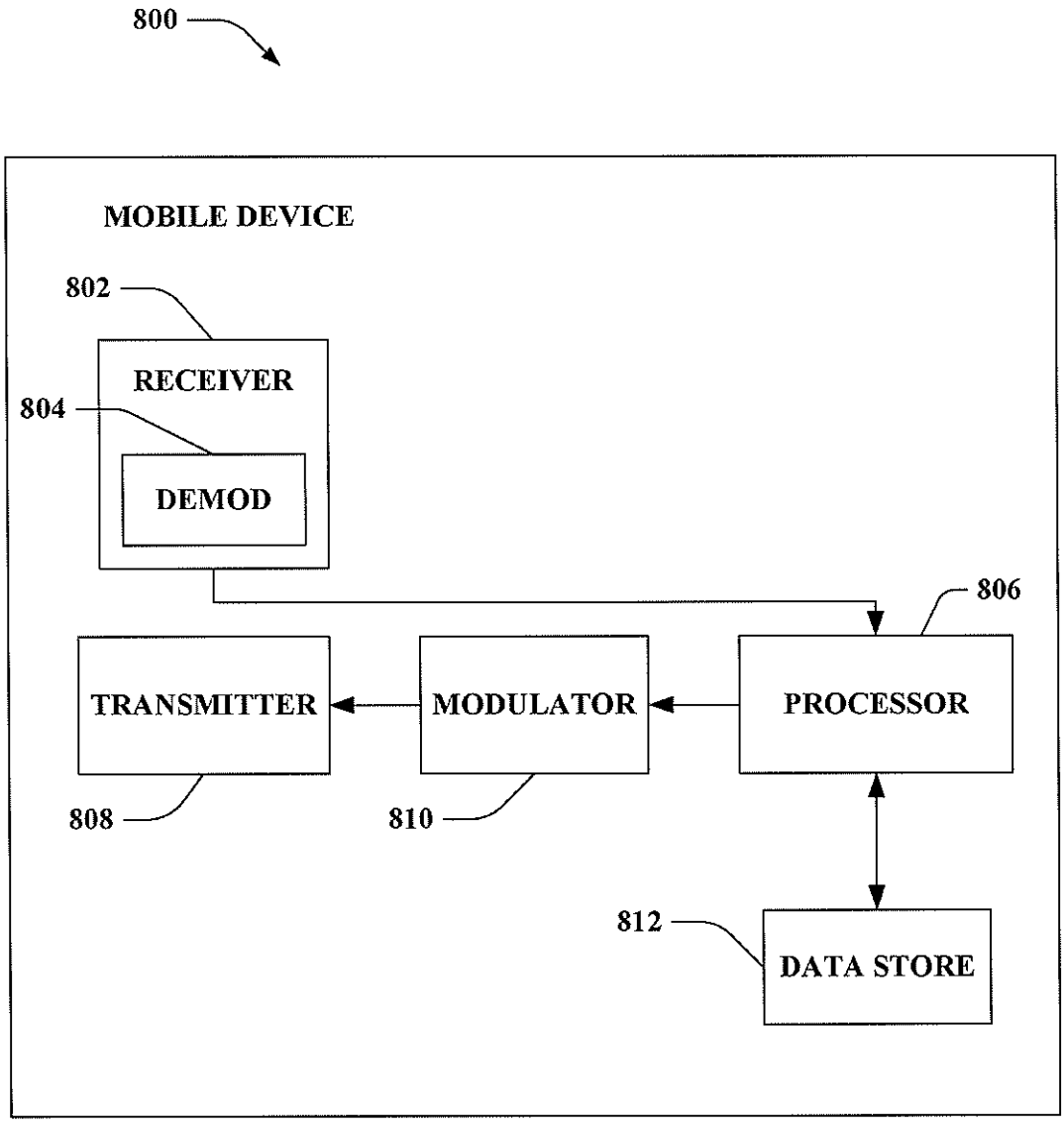

800
MOBILE DEVICE
802
RECEIVER
804
DEMOD
806
TRANSMITTER
MODULATOR
PROCESSOR
808
810
812
DATA STORE

FIG. 8

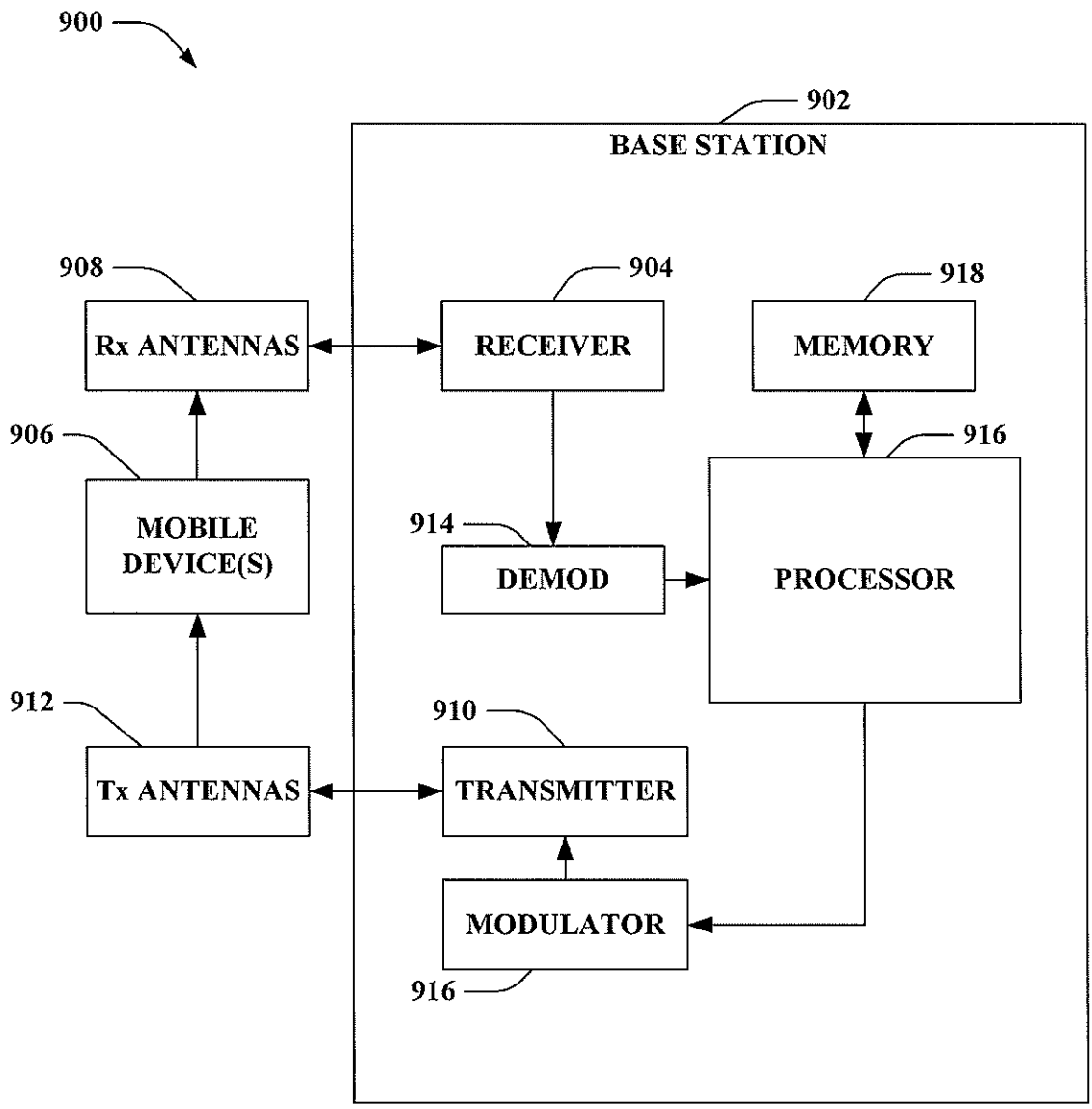

900
902
BASE STATION
908
Rx ANTENNAS
904
RECEIVER
918
MEMORY
906
MOBILE DEVICE(S)
916
914
DEMOD
PROCESSOR
912
910
Tx ANTENNAS
TRANSMITTER
MODULATOR
916

FIG. 9

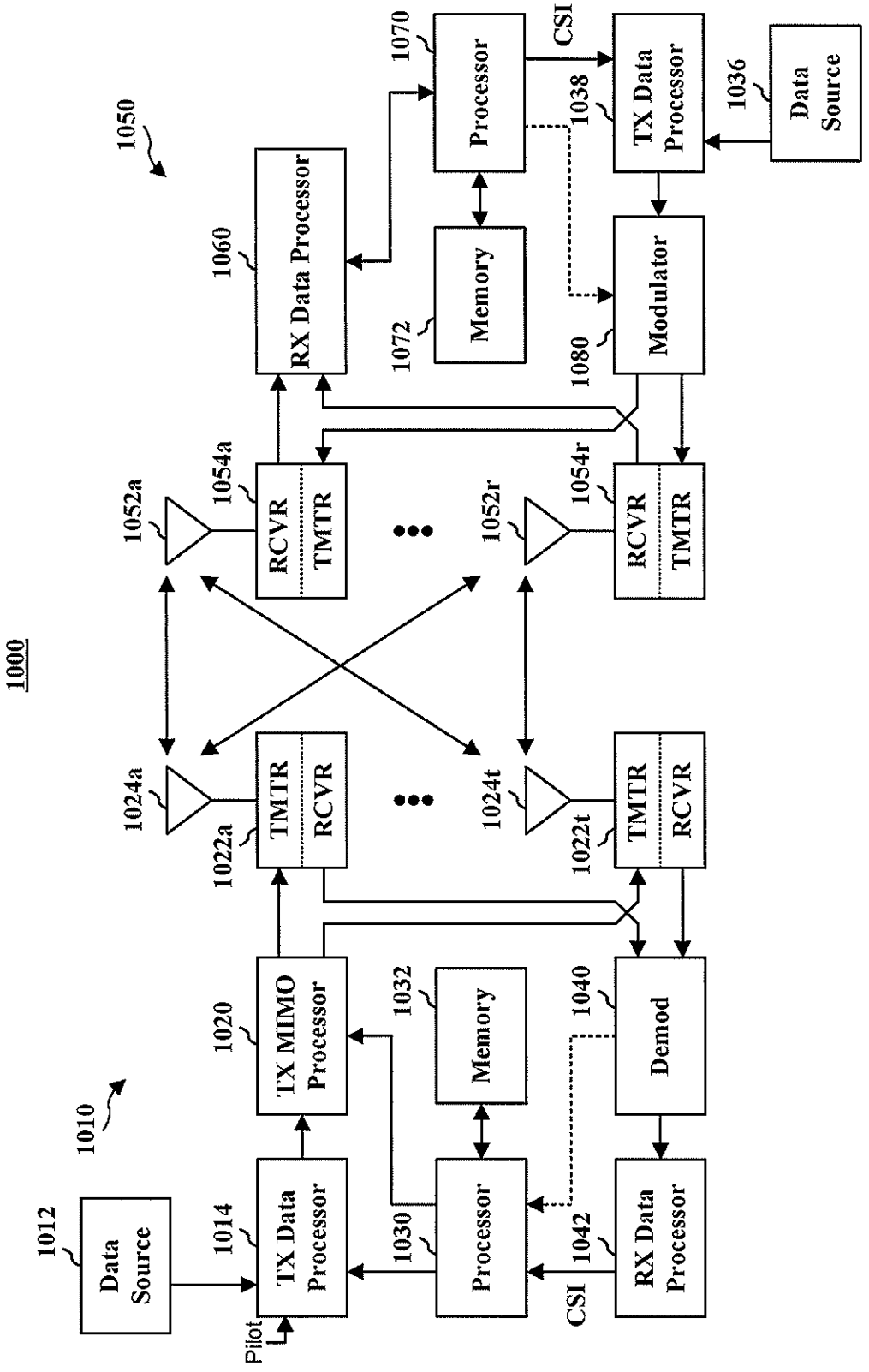

1000
1010
1012
Data Source
1014
TX Data Processor
Pilot
1020
TX MIMO Processor
1022a
TMTR
RCVR
1024a
1030
Processor
1032
Memory
1040
Demod
1042
RX Data Processor
CSI
1050
1052a
1054a
RCVR
TMTR
1052r
1054r
RCVR
TMTR
1060
RX Data Processor
1070
Processor
1072
Memory
1080
Modulator
1038
CSI
TX Data Processor
1036
Data Source
1022t
TMTR
RCVR
1024t

FIG. 10

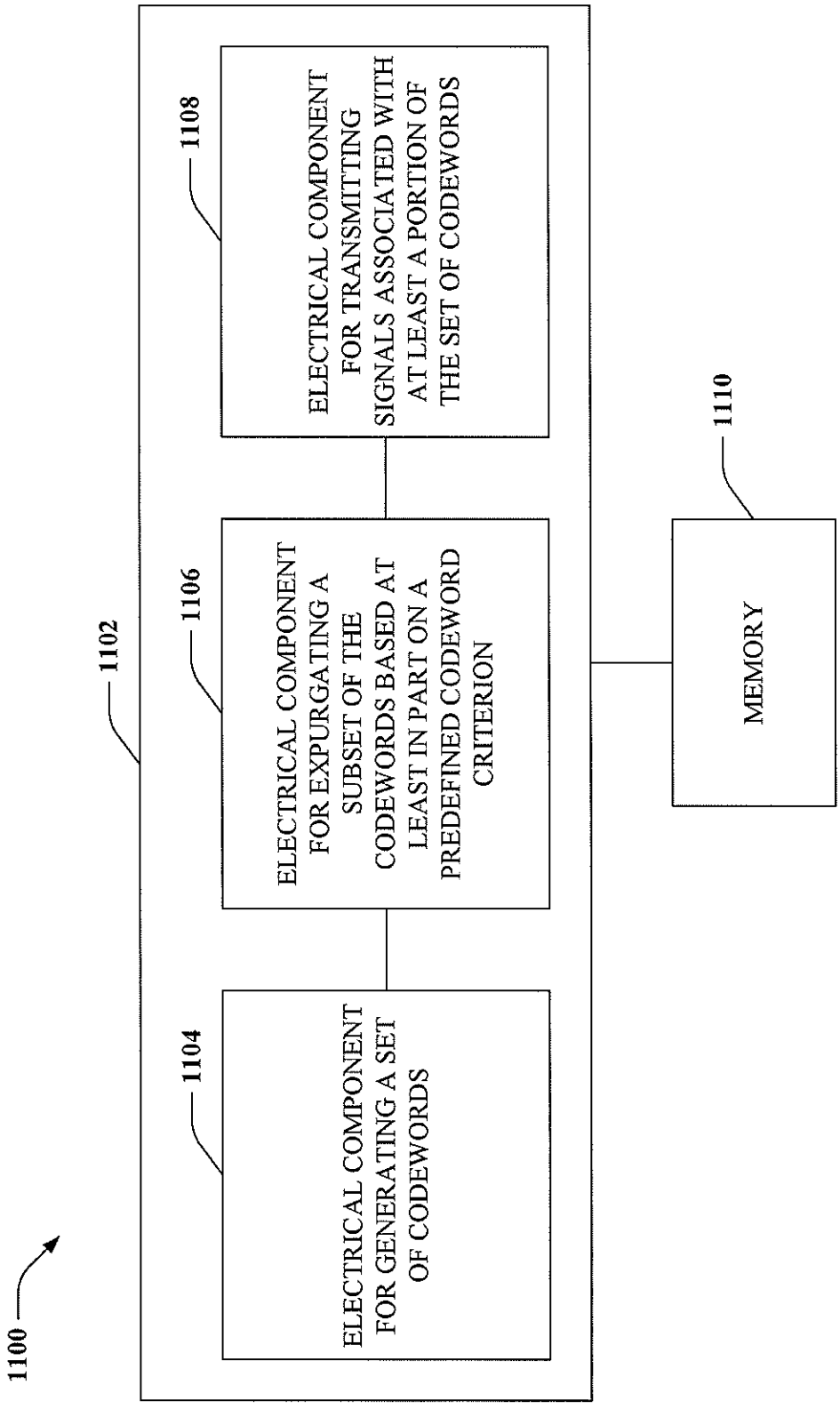

1100
1102
1104
ELECTRICAL COMPONENT FOR GENERATING A SET OF CODEWORDS
1106
ELECTRICAL COMPONENT FOR EXPURGATING A SUBSET OF THE CODEWORDS BASED AT LEAST IN PART ON A PREDEFINED CODEWORD CRITERION
1108
ELECTRICAL COMPONENT FOR TRANSMITTING SIGNALS ASSOCIATED WITH AT LEAST A PORTION OF THE SET OF CODEWORDS
1110
MEMORY

FIG. 11

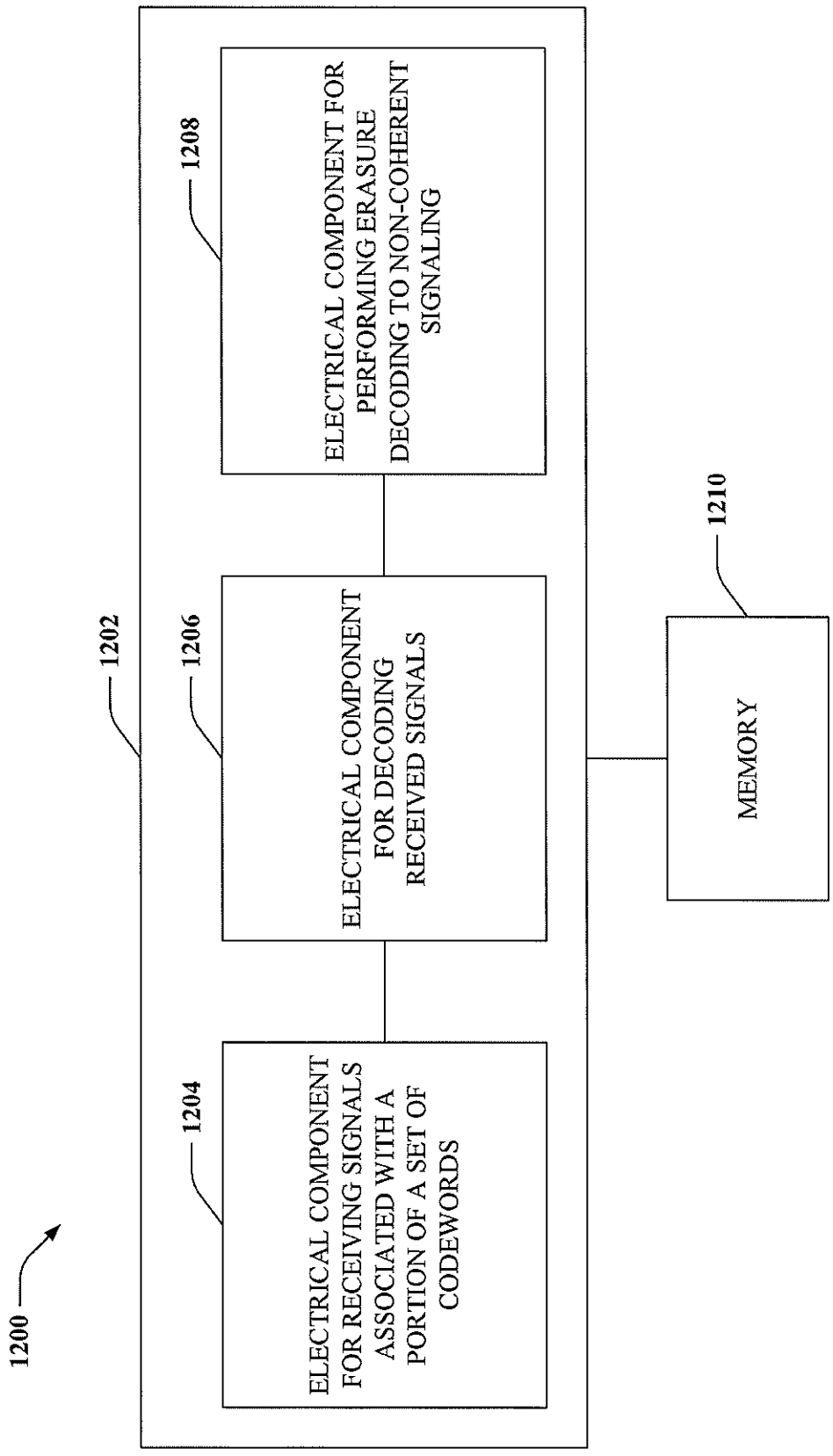

1200
1202
1204
ELECTRICAL COMPONENT FOR RECEIVING SIGNALS ASSOCIATED WITH A PORTION OF A SET OF CODEWORDS
1206
ELECTRICAL COMPONENT FOR DECODING RECEIVED SIGNALS
1208
ELECTRICAL COMPONENT FOR PERFORMING ERASURE DECODING TO NON-COHERENT SIGNALING
1210
MEMORY

FIG. 12