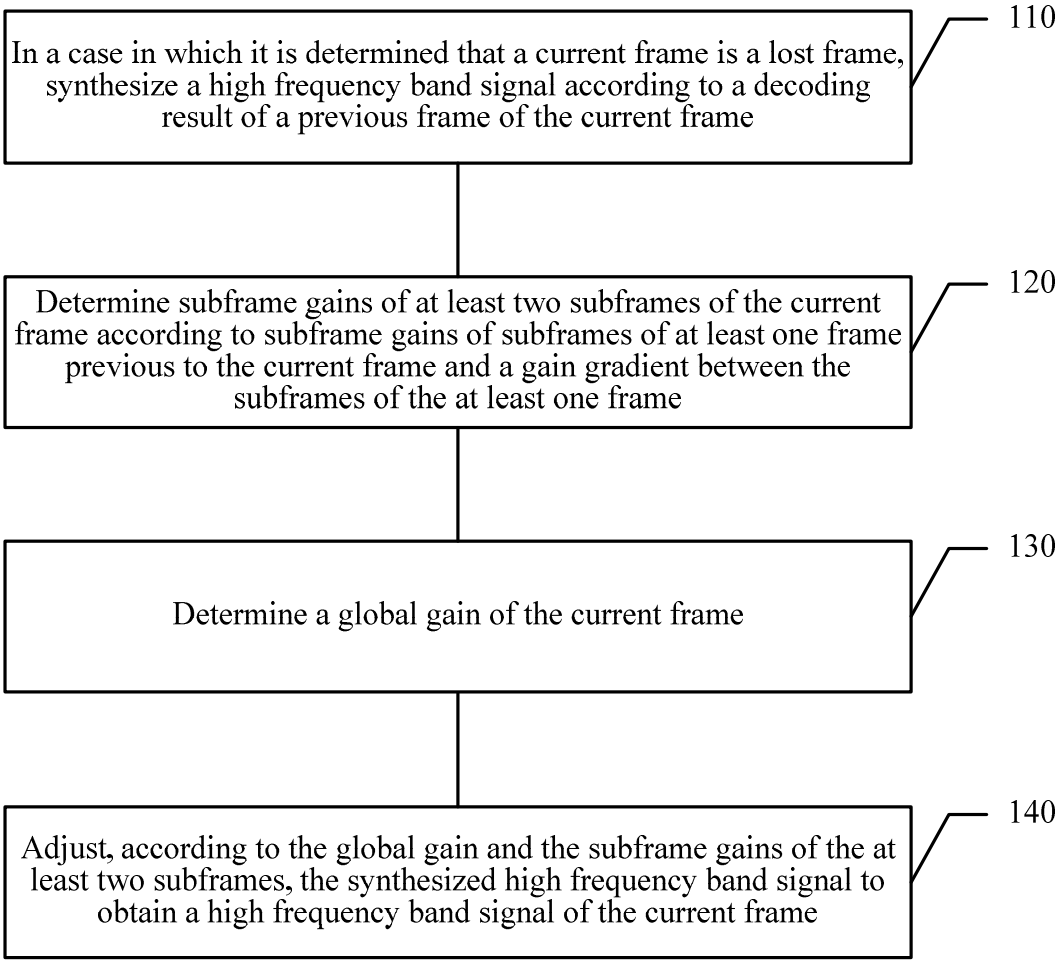

In a case in which it is determined that a current frame is a lost frame, synthesize a high frequency band signal according to a decoding result of a previous frame of the current frame
110
Determine subframe gains of at least two subframes of the current frame according to subframe gains of subframes of at least one frame previous to the current frame and a gain gradient between the subframes of the at least one frame
120
Determine a global gain of the current frame
130
Adjust, according to the global gain and the subframe gains of the at least two subframes, the synthesized high frequency band signal to obtain a high frequency band signal of the current frame
140

FIG. 1

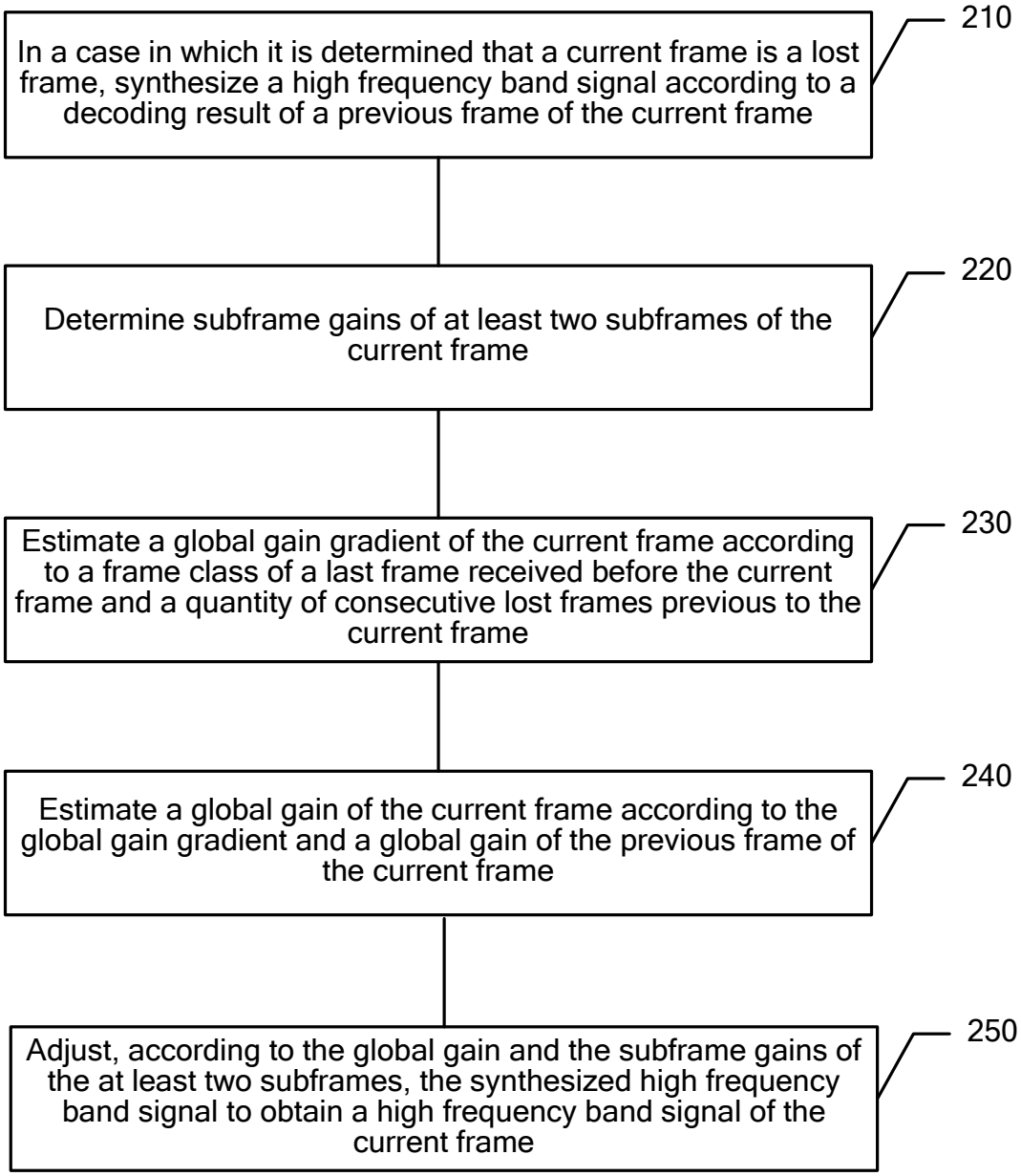

In a case in which it is determined that a current frame is a lost frame, synthesize a high frequency band signal according to a decoding result of a previous frame of the current frame
210
Determine subframe gains of at least two subframes of the current frame
220
Estimate a global gain gradient of the current frame according to a frame class of a last frame received before the current frame and a quantity of consecutive lost frames previous to the current frame
230
Estimate a global gain of the current frame according to the global gain gradient and a global gain of the previous frame of the current frame
240
Adjust, according to the global gain and the subframe gains of the at least two subframes, the synthesized high frequency band signal to obtain a high frequency band signal of the current frame
250

FIG. 2

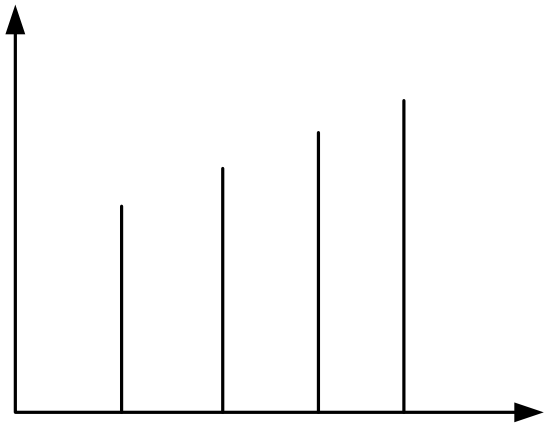


FIG. 3A

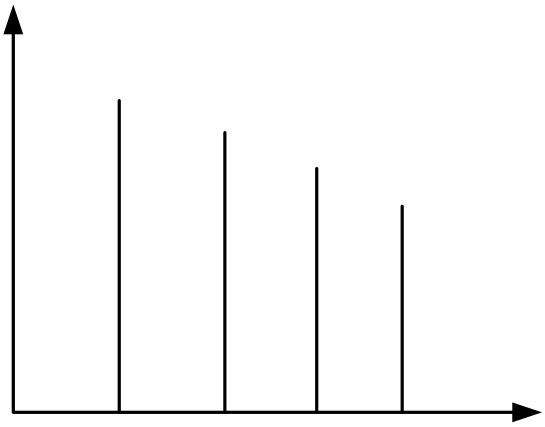


FIG. 3B

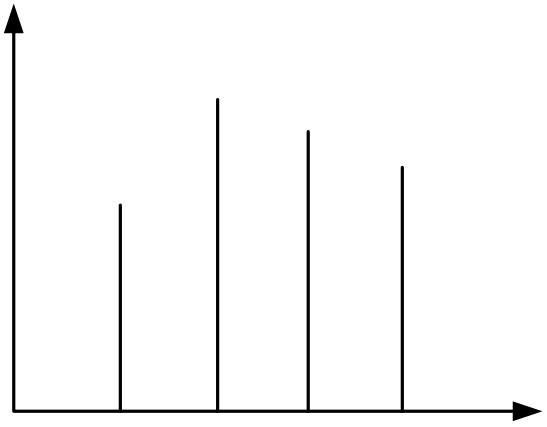


FIG. 3C

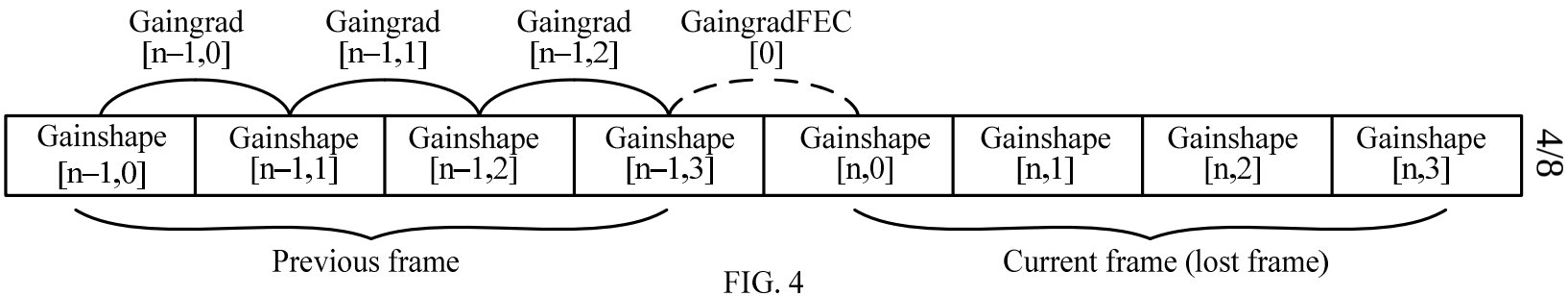

Gaingrad [n–1,0]
Gaingrad [n–1,1]
Gaingrad [n–1,2]
GaingradFEC [0]
Gainshape [n–1,0]
Gainshape [n–1,1]
Gainshape [n–1,2]
Gainshape [n–1,3]
Gainshape [n,0]
Gainshape [n,1]
Gainshape [n,2]
Gainshape [n,3]
Previous frame
Current frame (lost frame)

FIG. 4

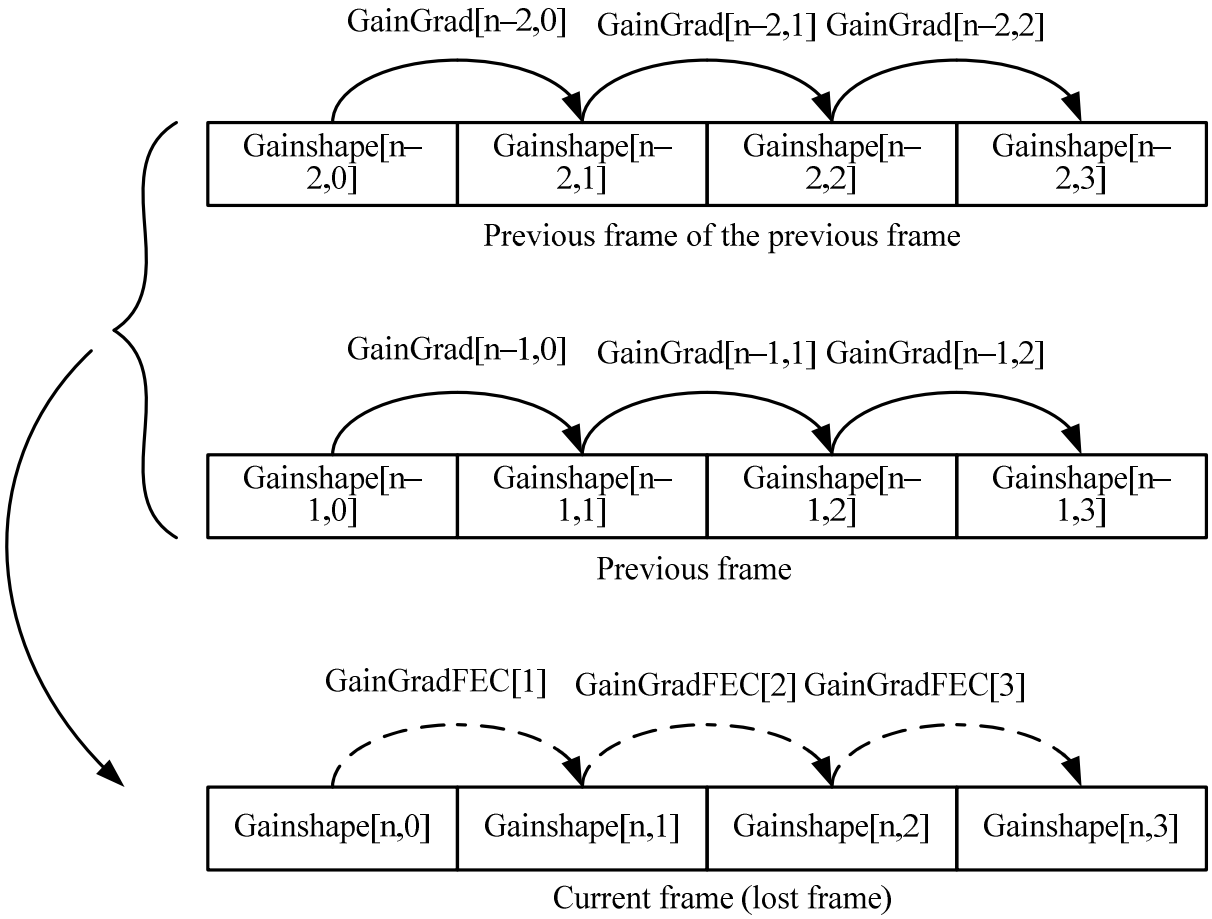

GainGrad[n–2,0]
GainGrad[n–2,1]
GainGrad[n–2,2]
Gainshape[n–2,0]
Gainshape[n–2,1]
Gainshape[n–2,2]
Gainshape[n–2,3]
Previous frame of the previous frame
GainGrad[n–1,0]
GainGrad[n–1,1]
GainGrad[n–1,2]
Gainshape[n–1,0]
Gainshape[n–1,1]
Gainshape[n–1,2]
Gainshape[n–1,3]
Previous frame
GainGradFEC[1]
GainGradFEC[2]
GainGradFEC[3]
Gainshape[n,0]
Gainshape[n,1]
Gainshape[n,2]
Gainshape[n,3]
Current frame (lost frame)

FIG. 5

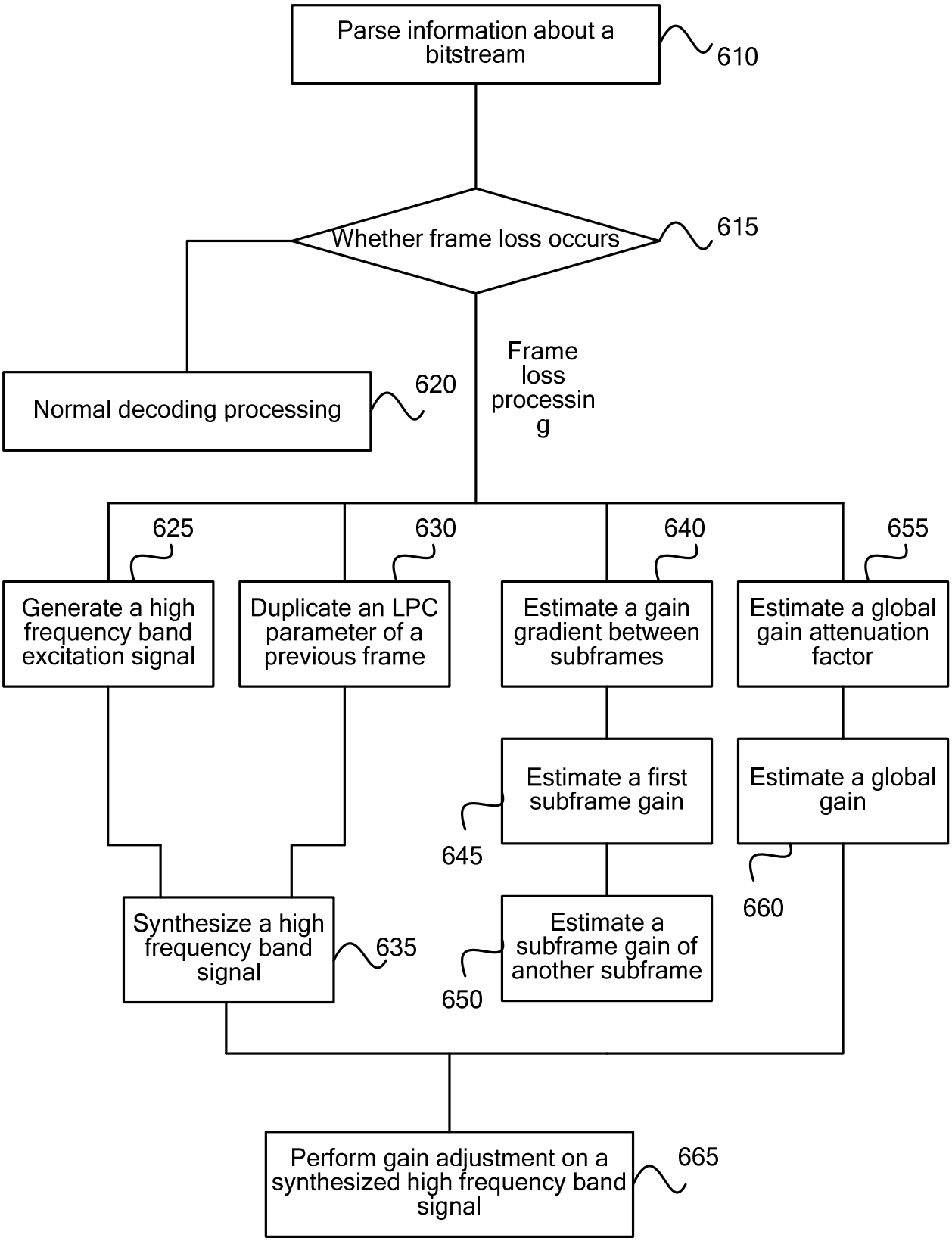

Parse information about a bitstream
610
Whether frame loss occurs
615
Normal decoding processing
620
Frame loss processing
625
630
640
655
Generate a high frequency band excitation signal
Duplicate an LPC parameter of a previous frame
Estimate a gain gradient between subframes
Estimate a global gain attenuation factor
Estimate a first subframe gain
645
Estimate a global gain
660
Synthesize a high frequency band signal
635
Estimate a subframe gain of another subframe
650
Perform gain adjustment on a synthesized high frequency band signal
665

FIG. 6

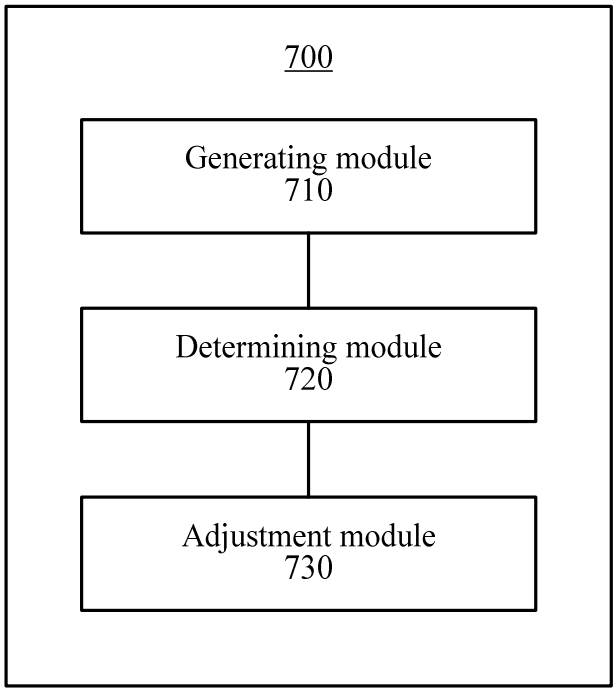

700
Generating module
710
Determining module
720
Adjustment module
730

FIG. 7

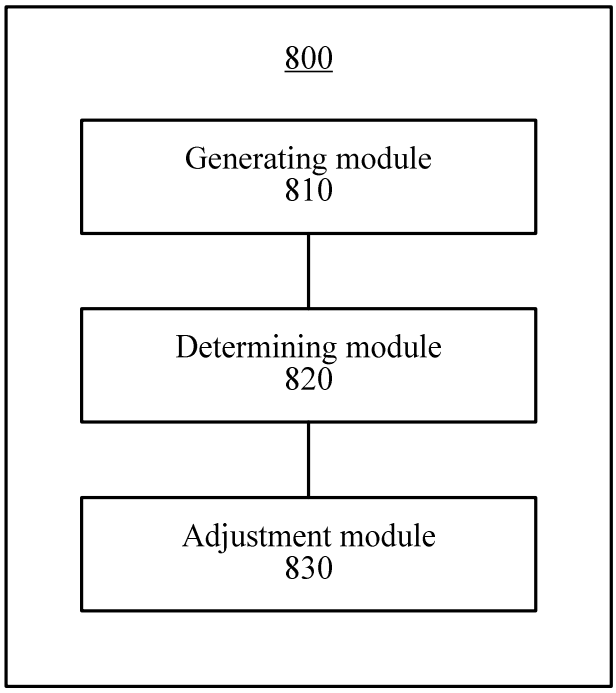

800
Generating module
810
Determining module
820
Adjustment module
830

FIG. 8

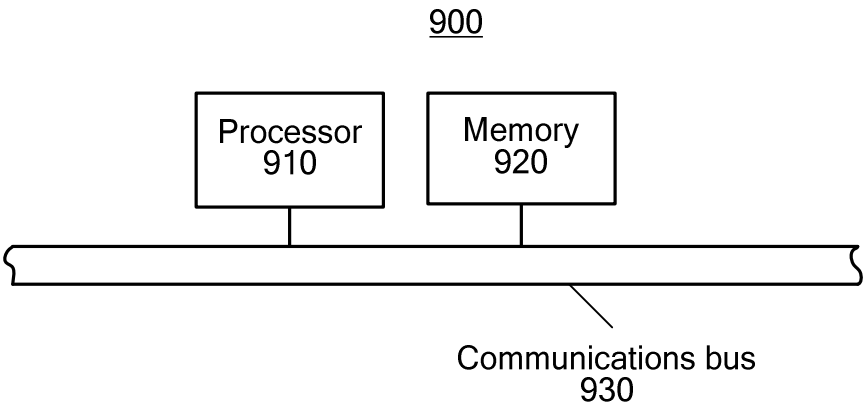

900
Processor
910
Memory
920
Communications bus
930

FIG. 9

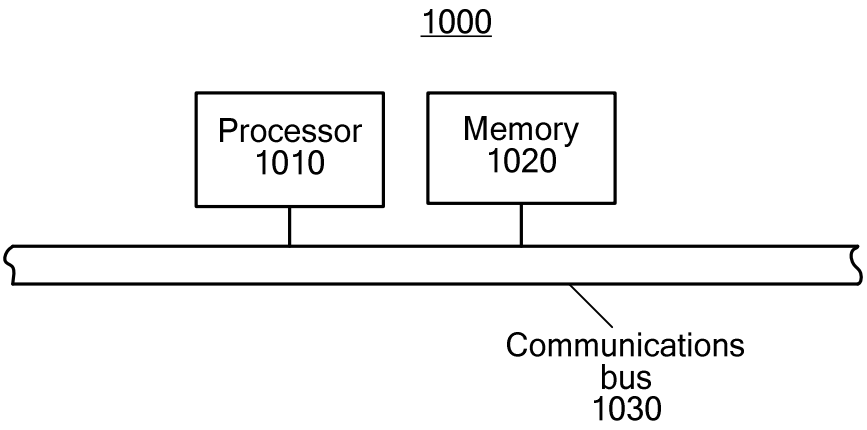

1000
Processor
1010
Memory
1020
Communications
bus
1030

FIG. 10