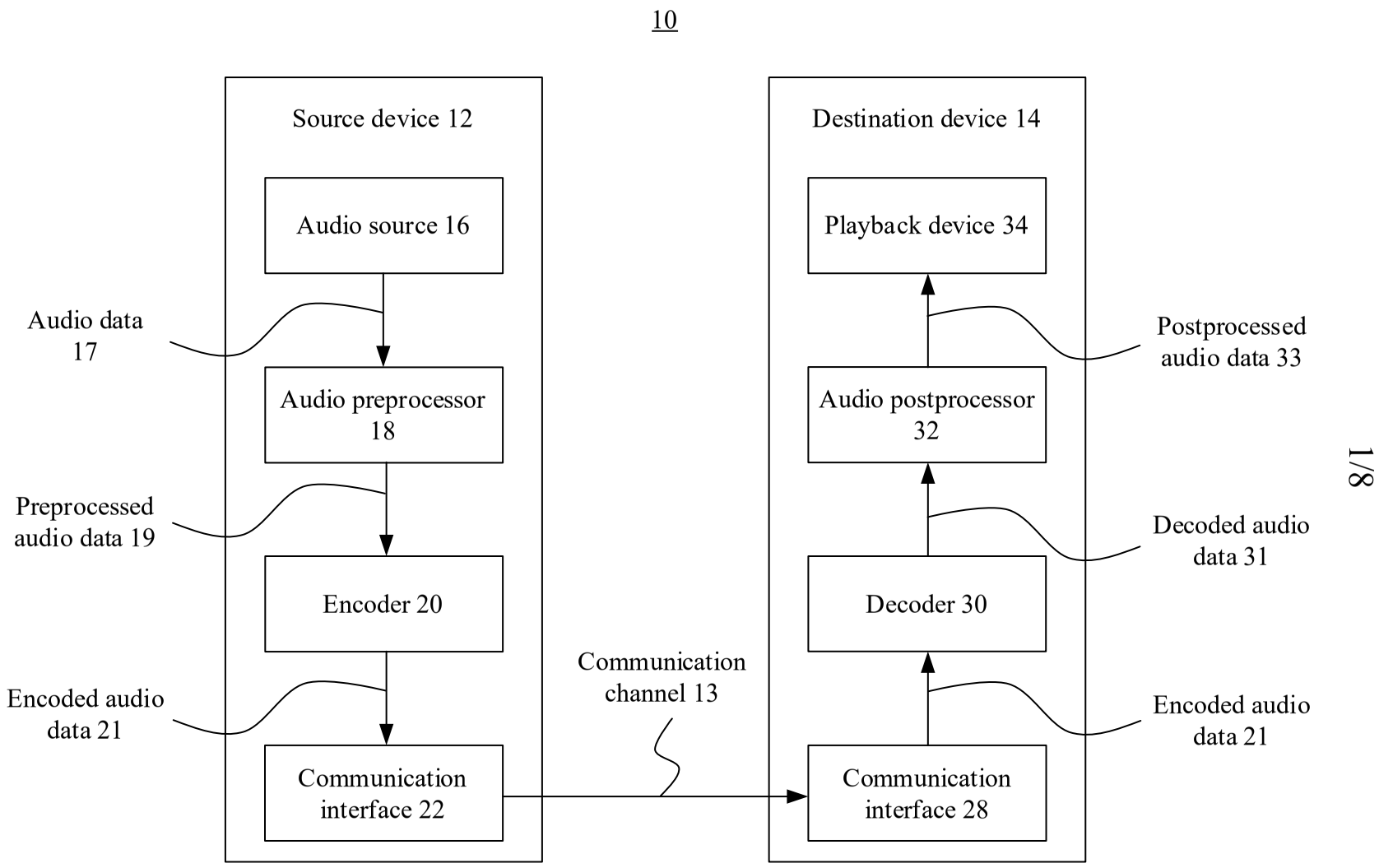
10
Source device 12
Audio source 16
Audio data 17
Audio preprocessor 18
Preprocessed audio data 19
Encoder 20
Encoded audio data 21
Communication interface 22
Communication channel 13
Destination device 14
Playback device 34
Postprocessed audio data 33
Audio postprocessor 32
Decoded audio data 31
Decoder 30
Encoded audio data 21
Communication interface 28

FIG. 1

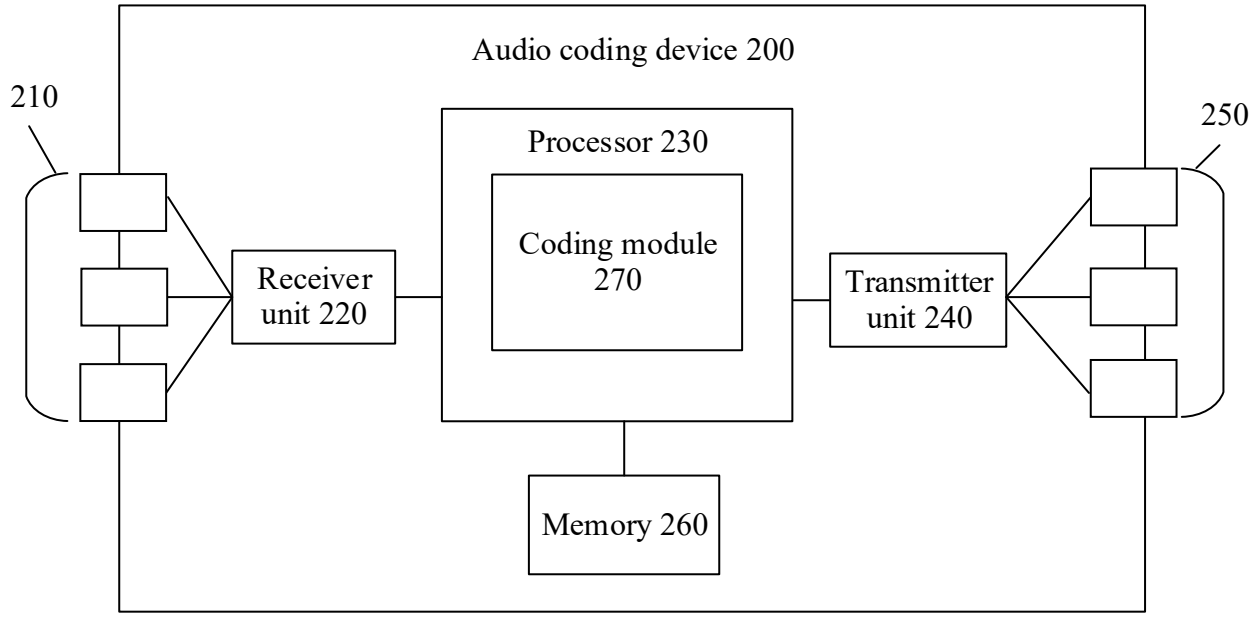
Audio coding device 200
210
250
Processor 230
Coding module 270
Receiver unit 220
Transmitter unit 240
Memory 260

FIG. 2

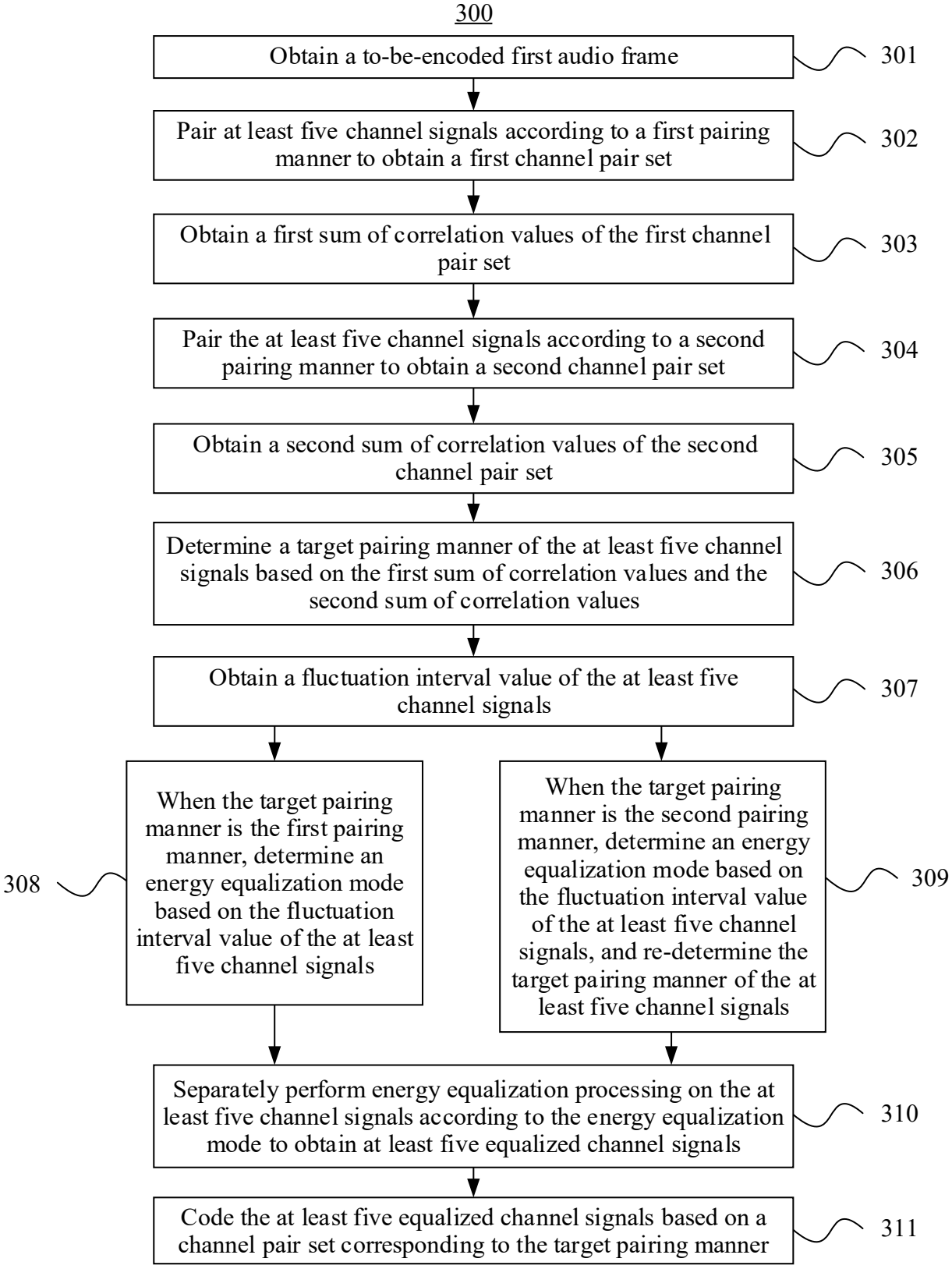
300
Obtain a to-be-encoded first audio frame
301
Pair at least five channel signals according to a first pairing manner to obtain a first channel pair set
302
Obtain a first sum of correlation values of the first channel pair set
303
Pair the at least five channel signals according to a second pairing manner to obtain a second channel pair set
304
Obtain a second sum of correlation values of the second channel pair set
305
Determine a target pairing manner of the at least five channel signals based on the first sum of correlation values and the second sum of correlation values
306
Obtain a fluctuation interval value of the at least five channel signals
307
When the target pairing manner is the first pairing manner, determine an energy equalization mode based on the fluctuation interval value of the at least five channel signals
308
When the target pairing manner is the second pairing manner, determine an energy equalization mode based on the fluctuation interval value of the at least five channel signals, and re-determine the target pairing manner of the at least five channel signals
309
Separately perform energy equalization processing on the at least five channel signals according to the energy equalization mode to obtain at least five equalized channel signals
310
Code the at least five equalized channel signals based on a channel pair set corresponding to the target pairing manner
311

FIG. 3

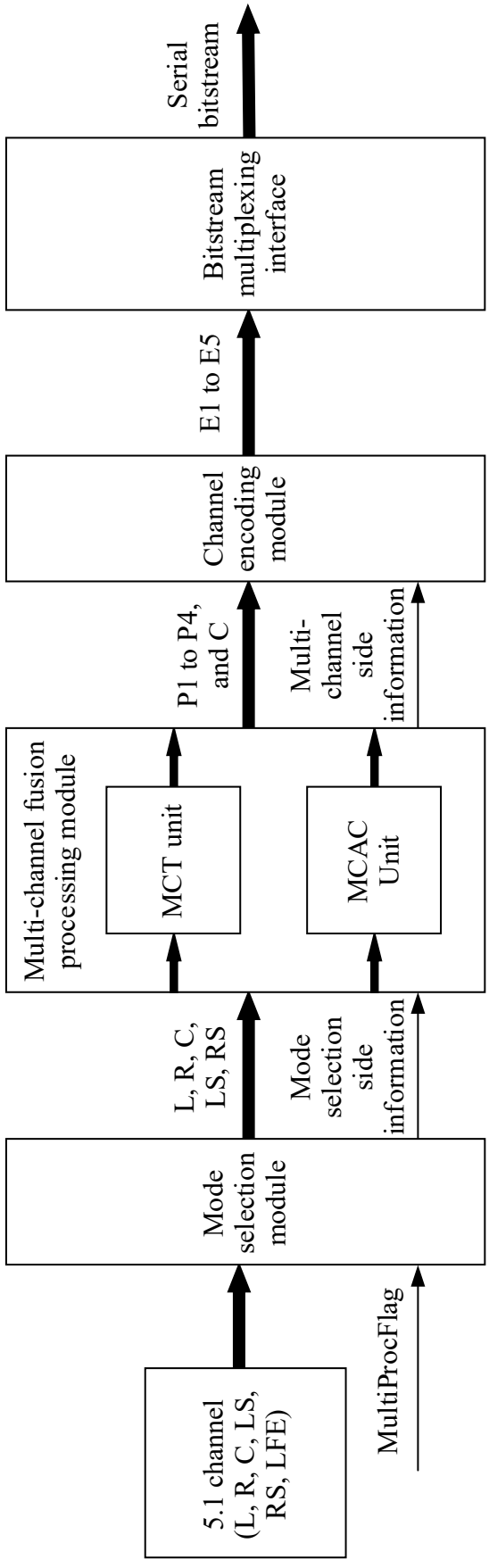
5.1 channel (L, R, C, LS, RS, LFE)
MultiProcFlag
Mode selection module
L, R, C, LS, RS
Mode selection side information
Multi-channel fusion processing module
MCT unit
MCAC Unit
P1 to P4, and C
Multi-channel side information
Channel encoding module
E1 to E5
Bitstream multiplexing interface
Serial bitstream

FIG. 4

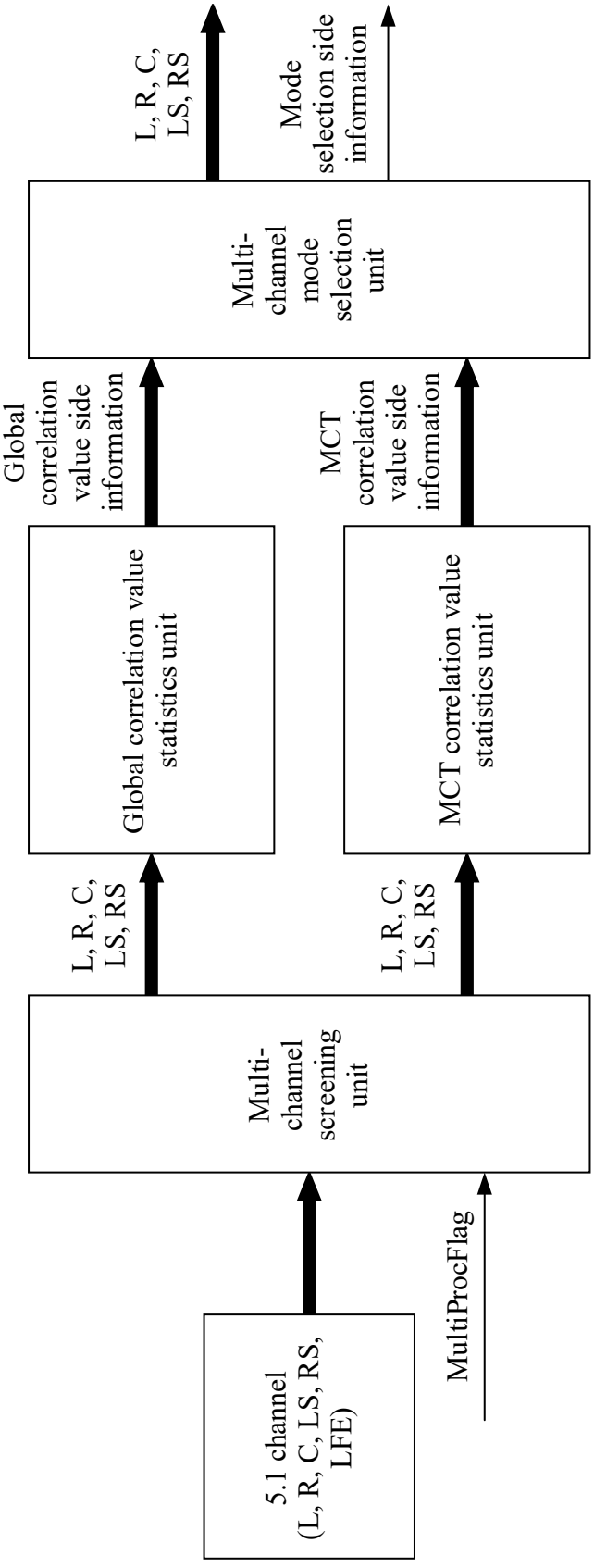
5.1 channel (L, R, C, LS, RS, LFE)
MultiProcFlag
Multi-channel screening unit
L, R, C, LS, RS
L, R, C, LS, RS
Global correlation value statistics unit
MCT correlation value statistics unit
Global correlation value side information
MCT correlation value side information
Multi-channel mode selection unit
L, R, C, LS, RS
Mode selection side information

FIG. 5a

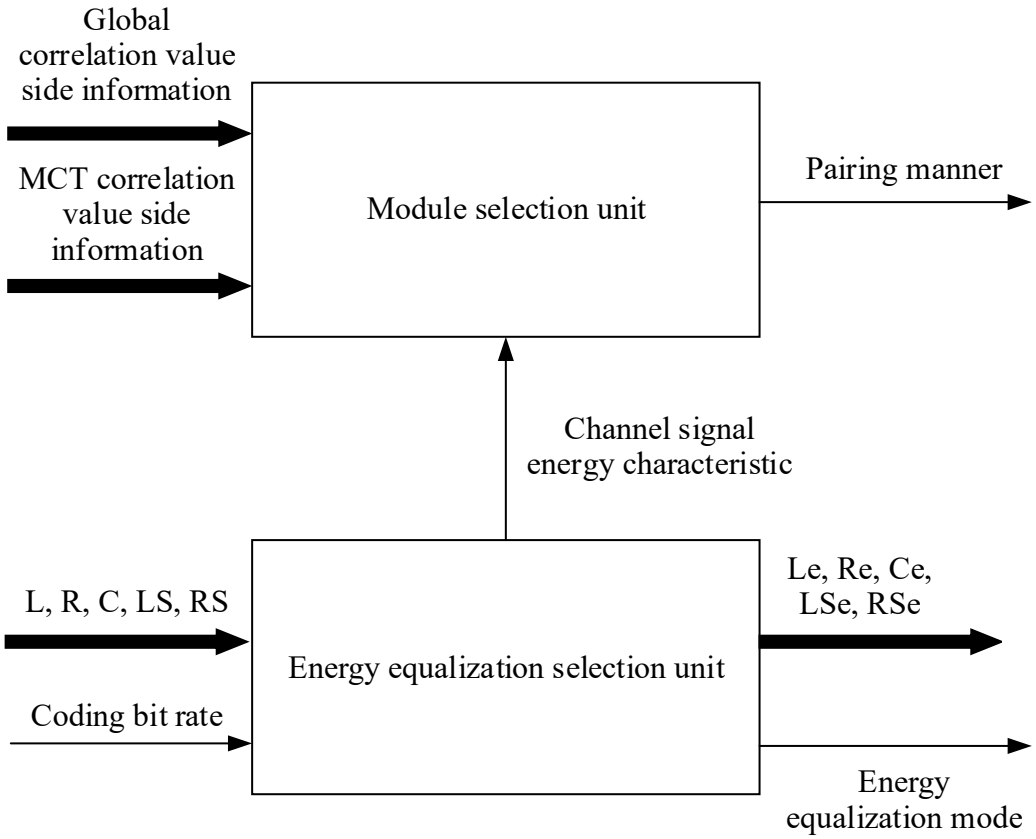
Global correlation value side information
MCT correlation value side information
Module selection unit
Pairing manner
Channel signal energy characteristic
L, R, C, LS, RS
Coding bit rate
Energy equalization selection unit
Le, Re, Ce, LSe, RSe
Energy equalization mode

FIG. 5b

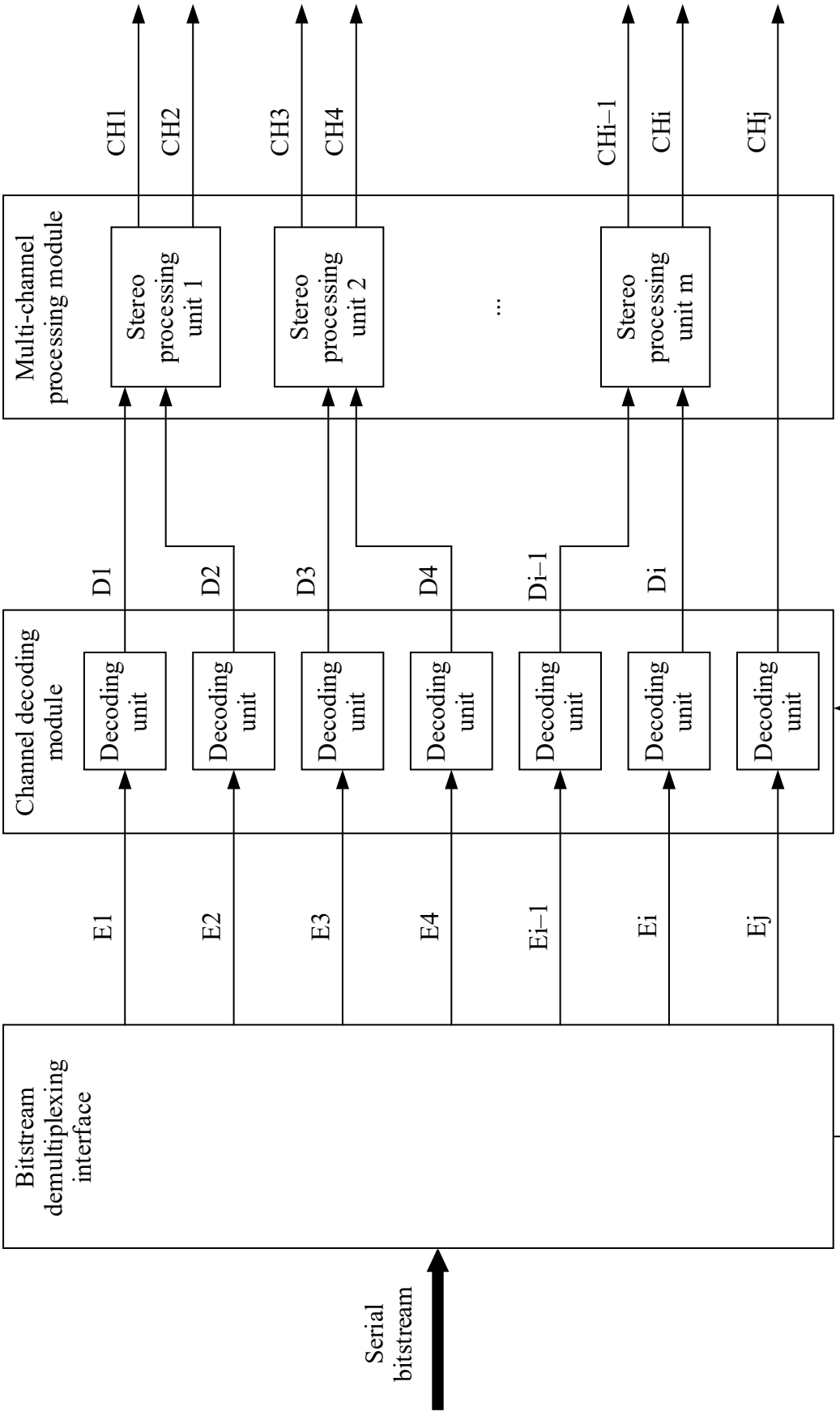
Serial bitstream
Bitstream demultiplexing interface
E1
E2
E3
E4
Ei–1
Ei
Ej
SIDE_PAIR1
SIDE_PAIR2
...
SIDE_PAIRm
Channel decoding module
Decoding unit
D1
D2
D3
D4
Di–1
Di
Multi-channel processing module
Stereo processing unit 1
Stereo processing unit 2
...
Stereo processing unit m
CH1
CH2
CH3
CH4
CHi–1
CHi
CHj

FIG. 6

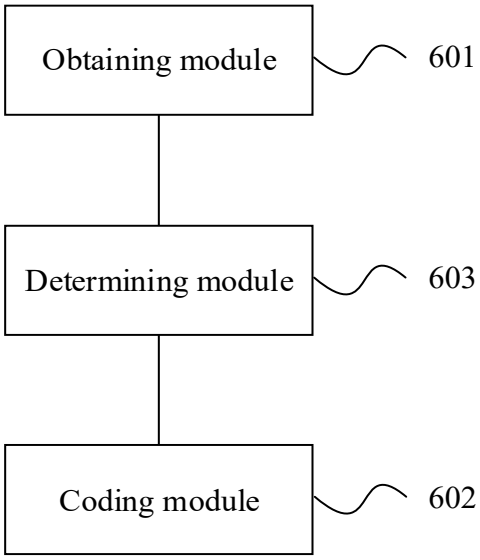
Obtaining module
601
Determining module
603
Coding module
602

FIG. 7

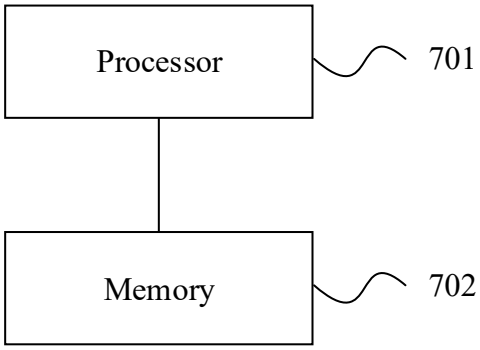
Processor
701
Memory
702

FIG. 8