FIG. 1

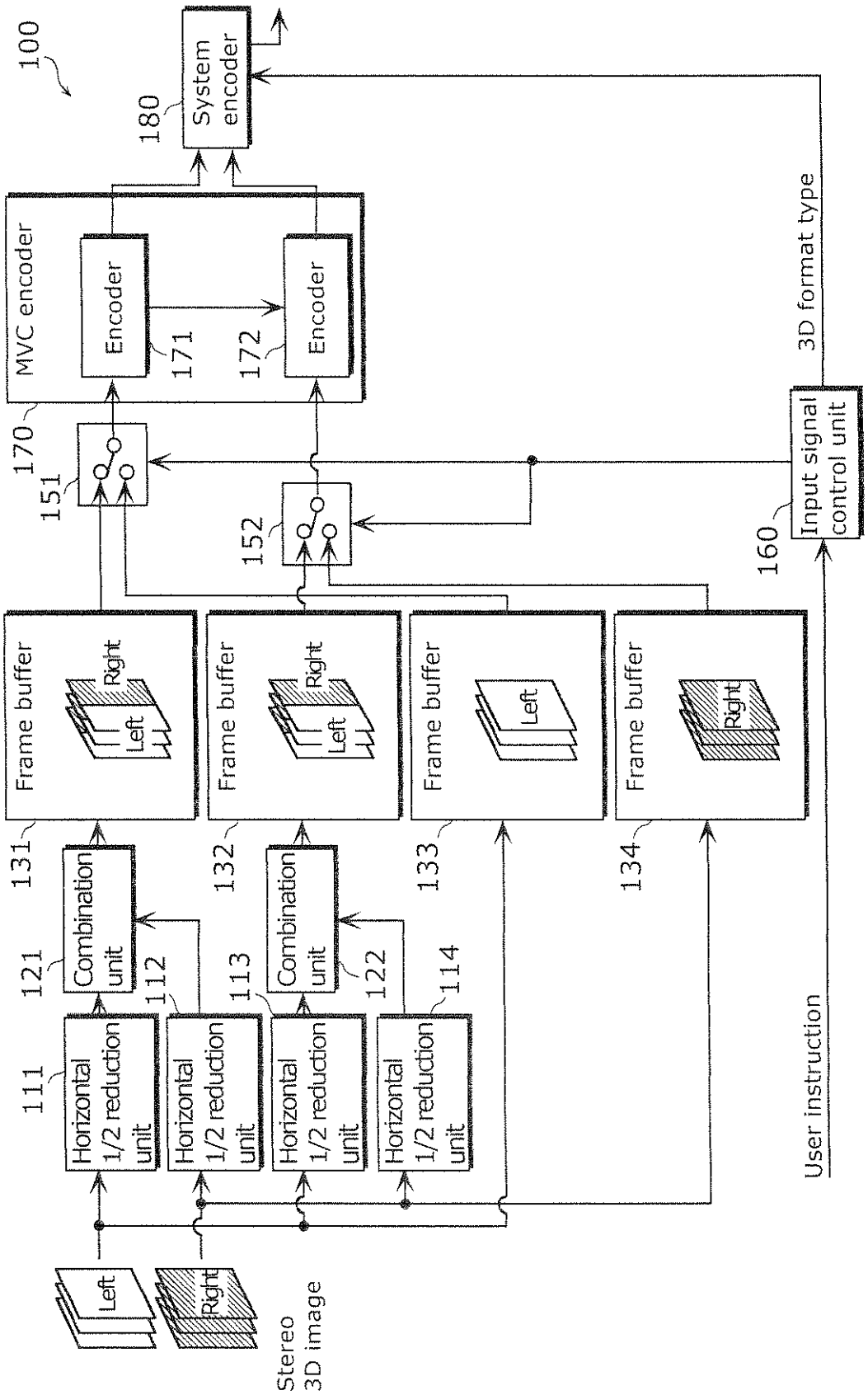

100
180
System encoder
MVC encoder
Encoder
171
172
Encoder
170
151
152
160
Input signal control unit
3D format type
Frame buffer
Right
Left
131
132
133
134
Combination unit
121
122
112
113
114
111
Horizontal 1/2 reduction unit
Left
Right
Stereo 3D image
User instruction

FIG. 2

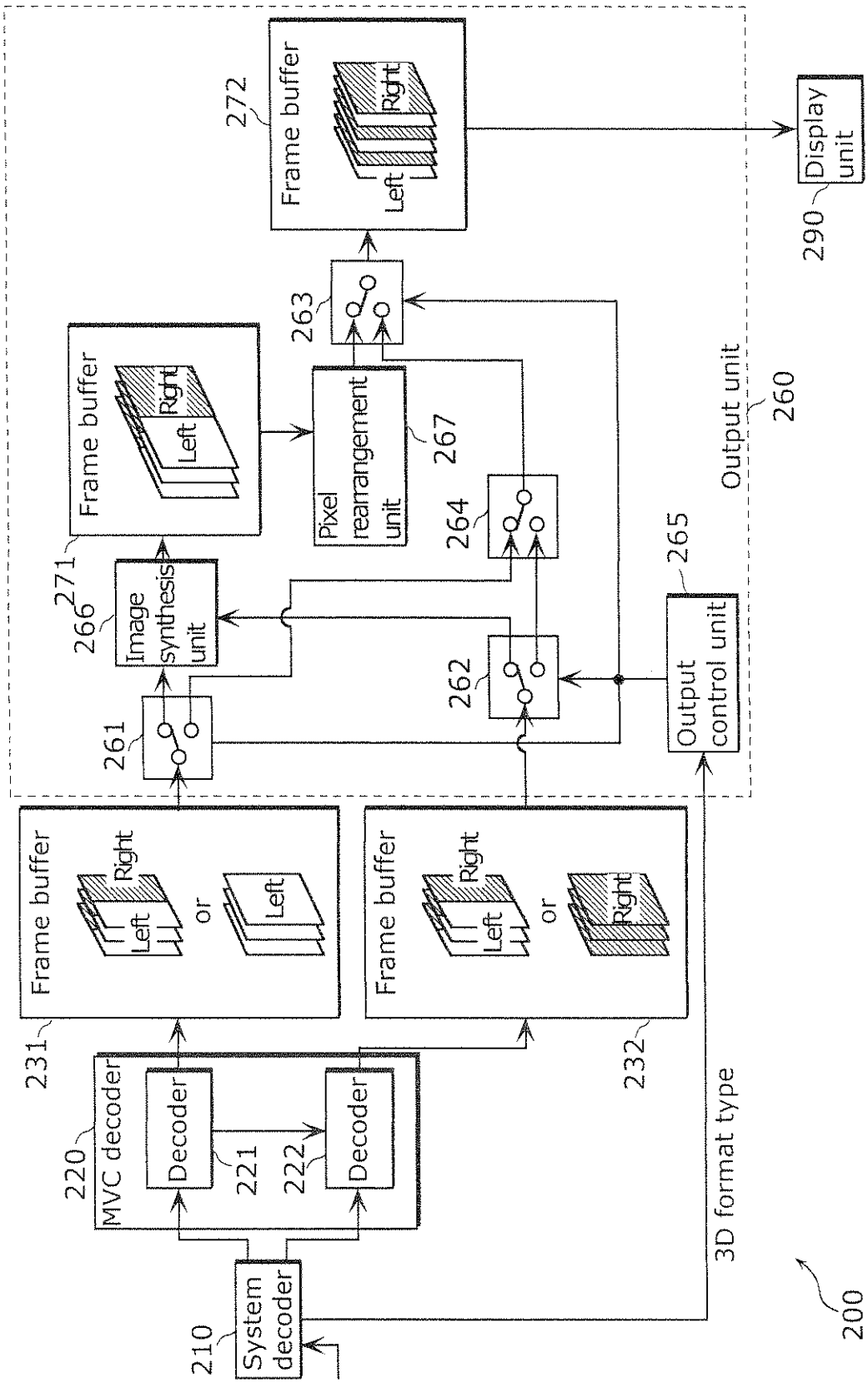

200
210
System decoder
220
MVC decoder
Decoder
221
222
Decoder
231
Frame buffer
Right
Left
or
Left
232
Frame buffer
Right
Left
or
Right
3D format type
260
Output unit
261
262
263
264
265
Output control unit
266
Image synthesis unit
271
Frame buffer
Right
Left
267
Pixel rearrangement unit
272
Frame buffer
Right
Left
290
Display unit

FIG. 3

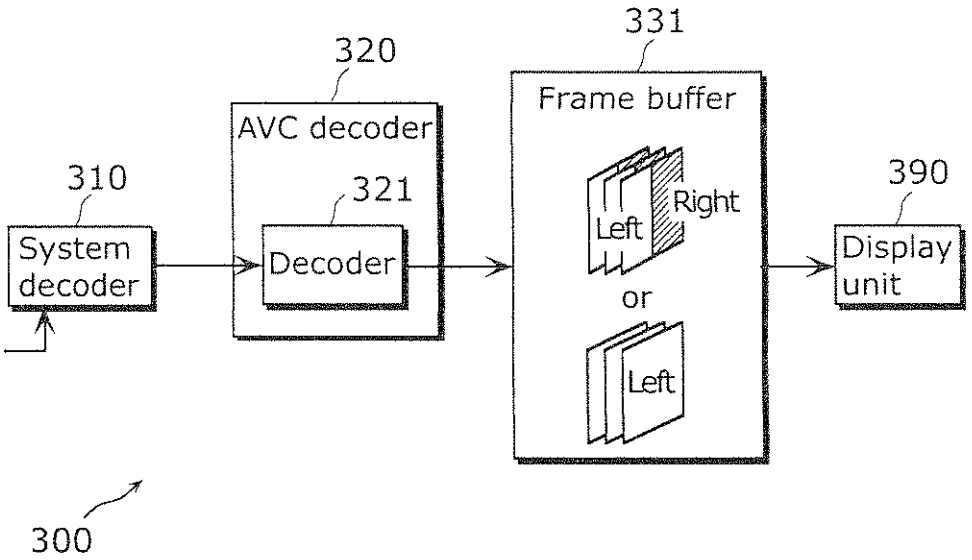

331
320
Frame buffer
AVC decoder
310
321
390
Left
Right
System decoder
Decoder
Display unit
or
Left
300

FIG. 4

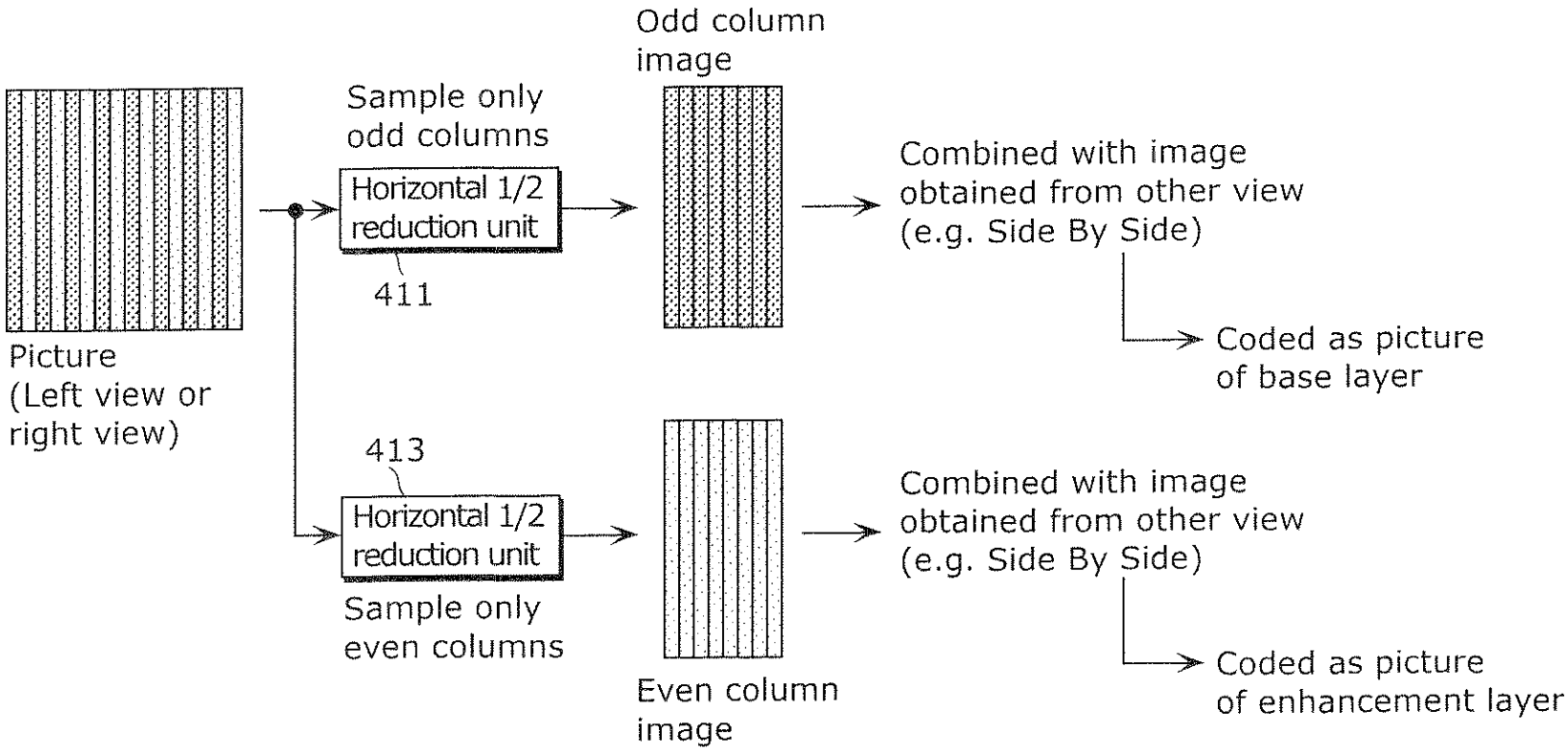

Picture
(Left view or
right view)
Sample only
odd columns
Horizontal 1/2
reduction unit
411
Odd column
image
Combined with image
obtained from other view
(e.g. Side By Side)
Coded as picture
of base layer
413
Horizontal 1/2
reduction unit
Sample only
even columns
Even column
image
Combined with image
obtained from other view
(e.g. Side By Side)
Coded as picture
of enhancement layer

FIG. 5

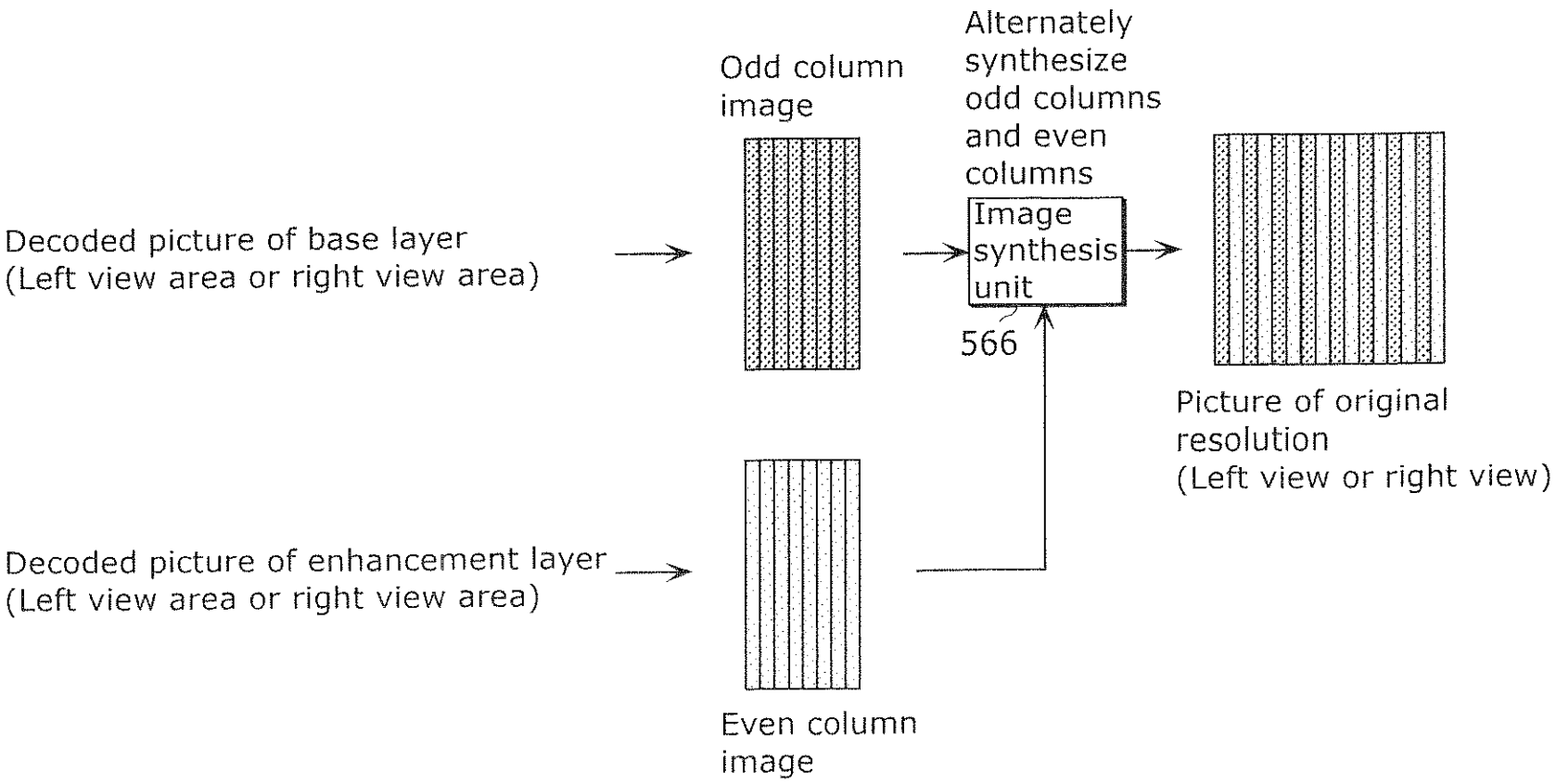

Decoded picture of base layer
(Left view area or right view area)
Odd column image
Alternately synthesize odd columns and even columns
Image synthesis unit
566
Picture of original resolution
(Left view or right view)
Decoded picture of enhancement layer
(Left view area or right view area)
Even column image

FIG. 6

Syntax	No. of bits	Mnemonic
MVC_extension_descriptor() {		
descriptor_tag	8	uimsbf
descriptor_length	8	uimsbf
average_bit_rate	16	uimsbf
maximum_bitrate	16	uimsbf
reserved	4	bslbf
view_order_index_min	10	bslbf
view_order_index_max	10	bslbf
temporal_id_start	3	bslbf
temporal_id_end	3	bslbf
no_sei_nal_unit_present	1	bslbf
no_prefix_nal_unit_present	1	bslbf
}		

Add the following two lines

frame_packing_info_present_flag	1	bslbf
reserved	7	bslbf

FIG. 7

Syntax	No. of bits	Mnemonic
MVC_extension_descriptor() {		
descriptor_tag	8	uimsbf
descriptor_length	8	uimsbf
average_bit_rate	16	uimsbf
maximum_bitrate	16	uimsbf
reserved	4	bslbf
view_order_index_min	10	bslbf
view_order_index_max	10	bslbf
temporal_id_start	3	bslbf
temporal_id_end	3	bslbf
no_sei_nal_unit_present	1	bslbf
no_prefix_nal_unit_present	1	bslbf
}		

Replace reserved with the following

frame_packing_info_present_flag	1	bslbf
reserved	3	bslbf

FIG. 8

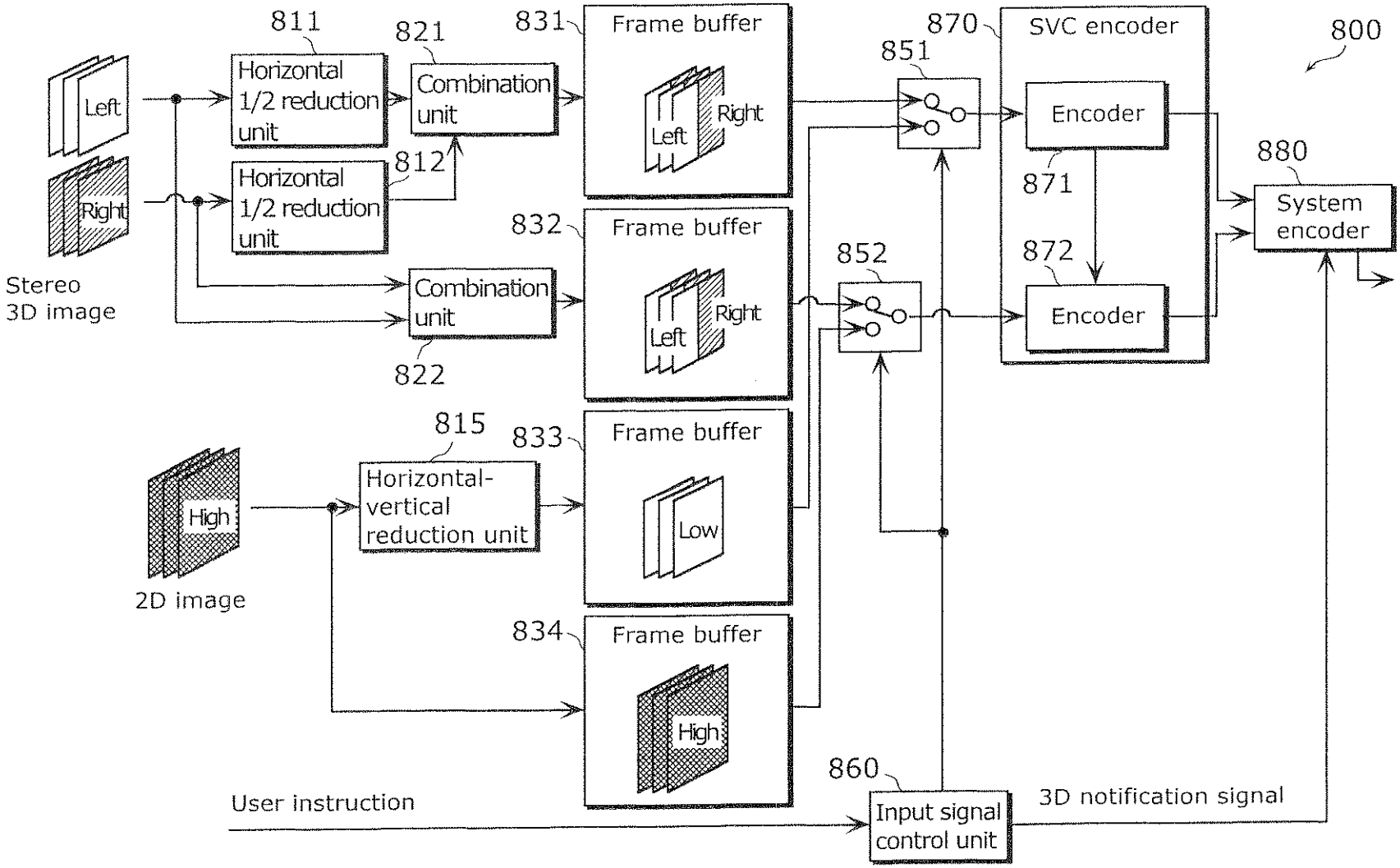

800
811
Horizontal 1/2 reduction unit
812
Horizontal 1/2 reduction unit
821
Combination unit
822
Combination unit
831
Frame buffer
Left
Right
832
Frame buffer
Left
Right
833
Frame buffer
Low
834
Frame buffer
High
815
Horizontal-vertical reduction unit
Left
Right
Stereo 3D image
High
2D image
851
852
870
SVC encoder
Encoder
871
Encoder
872
880
System encoder
860
Input signal control unit
User instruction
3D notification signal

FIG. 9

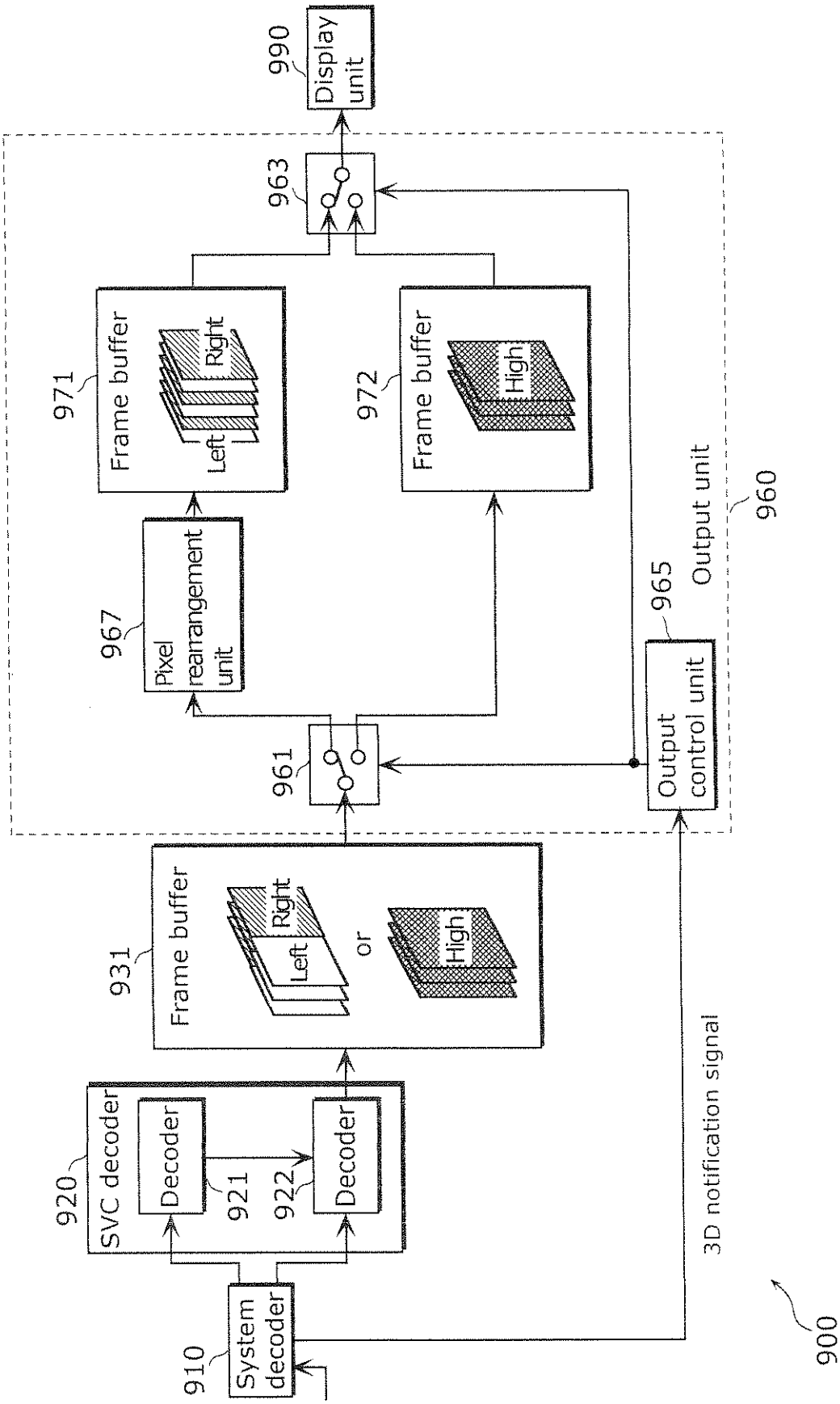

900
910
System decoder
920
SVC decoder
Decoder
921
922
Decoder
931
Frame buffer
Left
Right
or
High
961
967
Pixel rearrangement unit
971
Frame buffer
Left
Right
972
Frame buffer
High
963
990
Display unit
960
Output unit
965
Output control unit
3D notification signal

FIG. 10

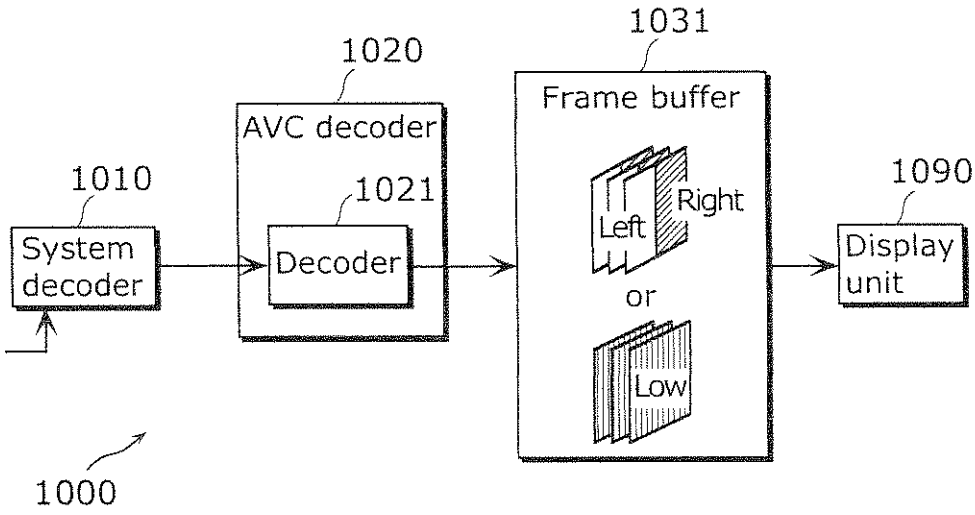


FIG. 11

Syntax	No. of bits	Mnemonic
SVC_extension_descriptor() {		
descriptor_tag	8	uimsbf
descriptor_length	8	uimsbf
width	16	uimsbf
height	16	uimsbf
frame_rate	16	uimsbf
average_bitrate	16	uimsbf
maximum_bitrate	16	uimsbf
dependency_id	3	bslbf
reserved	5	bslbf
quality_id_start	4	bslbf
quality_id_end	4	bslbf
temporal_id_start	3	bslbf
temporal_id_end	3	bslbf
no_sei_nal_unit_present	1	bslbf
reserved	1	bslbf
}		

Replace reserved with the following

frame_packing_info_present_flag	1	bslbf

FIG. 12

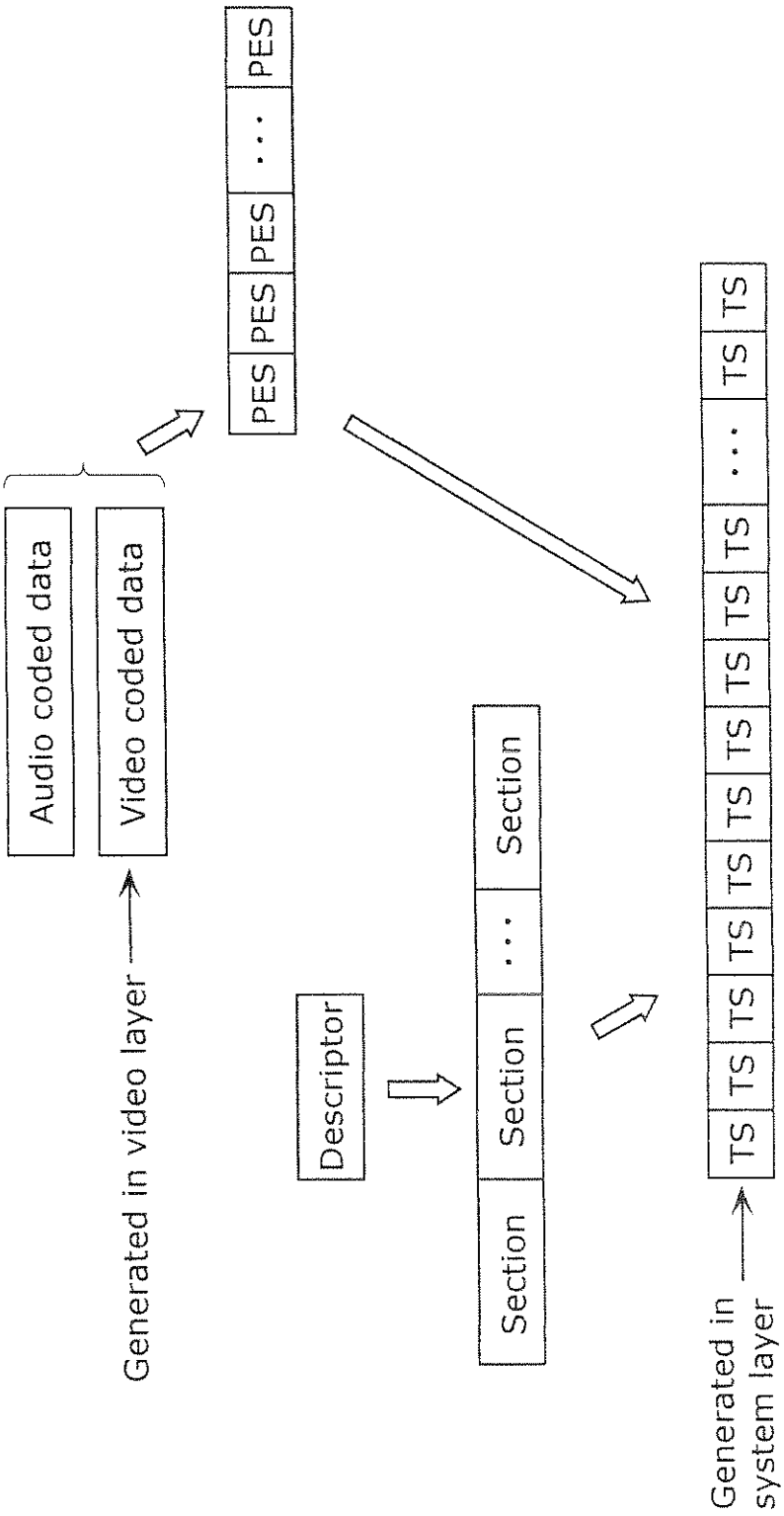

Audio coded data
Video coded data
Generated in video layer
PES
PES
PES
PES
Descriptor
Section
Section
Section
TS
TS
TS
TS
TS
TS
TS
TS
TS
TS
Generated in system layer

FIG. 13

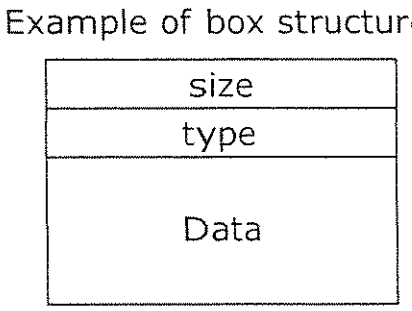

Example of box structure
size
type
Data

FIG. 14

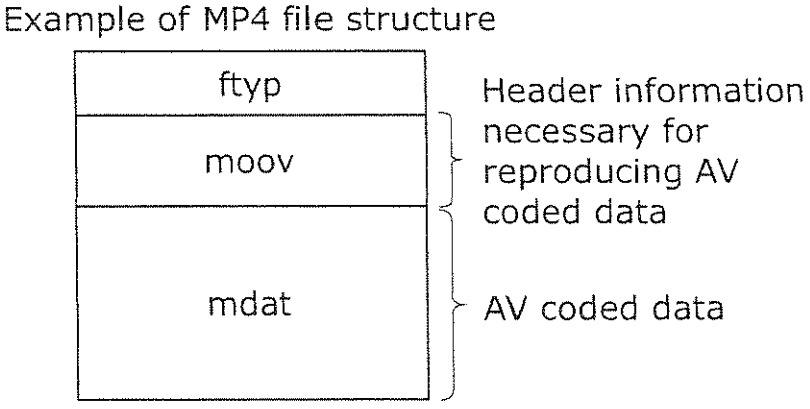

Example of MP4 file structure
ftyp
moov
mdat
Header information necessary for reproducing AV coded data
AV coded data

FIG. 15

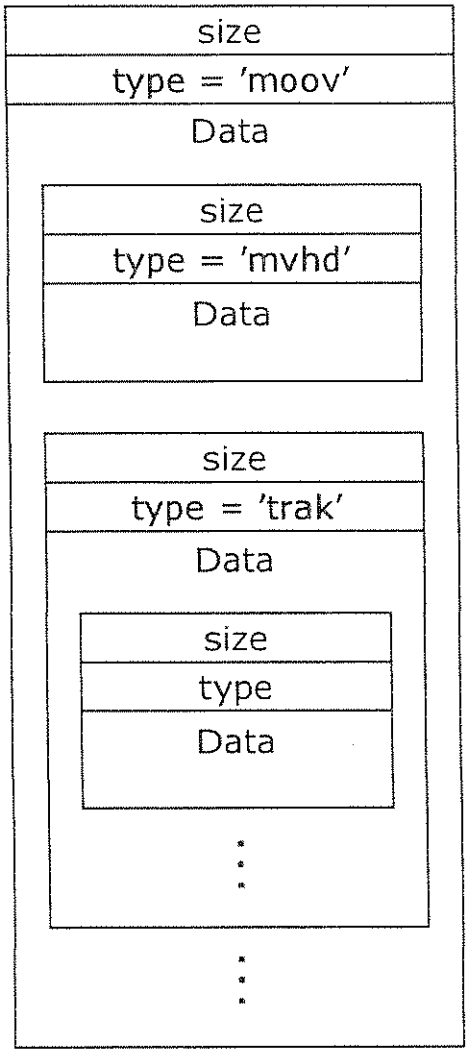

size
type = 'moov'
Data
size
type = 'mvhd'
Data
size
type = 'trak'
Data
size
type
Data

FIG. 16

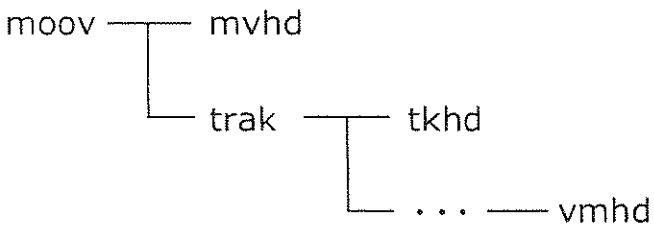

moov
mvhd
trak
tkhd
. . .
vmhd

FIG. 17

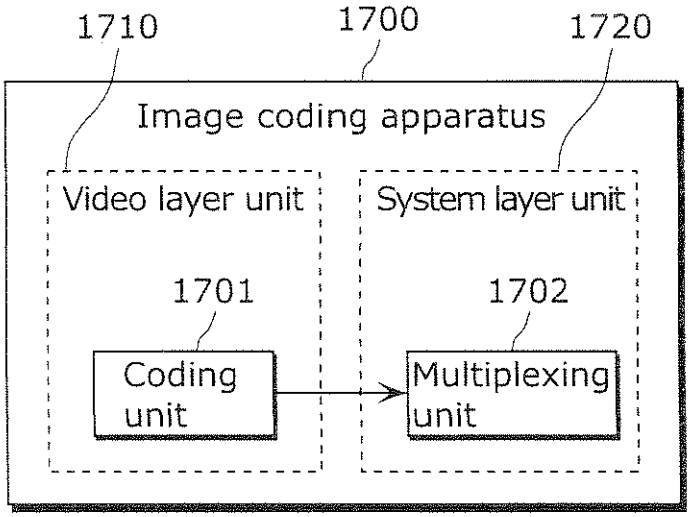

1710
1700
1720
Image coding apparatus
Video layer unit
System layer unit
1701
1702
Coding unit
Multiplexing unit

FIG. 18

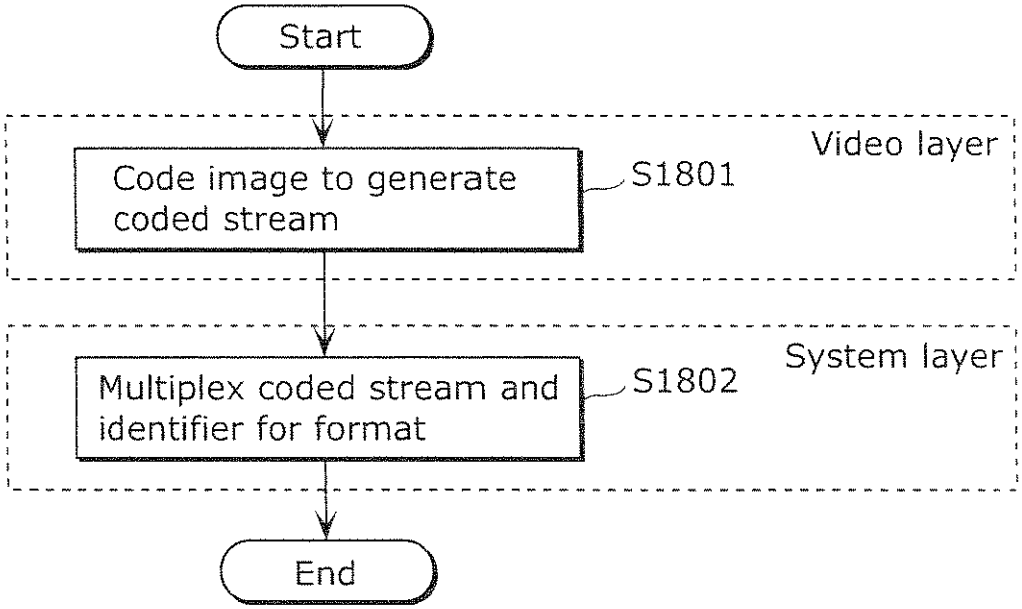

Start
Video layer
Code image to generate coded stream
S1801
System layer
Multiplex coded stream and identifier for format
S1802
End

FIG. 19

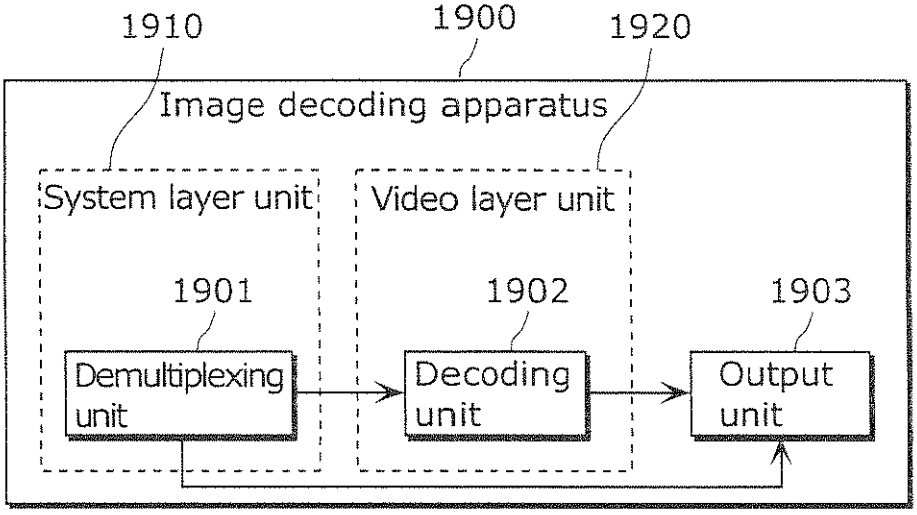

1910
1900
1920
Image decoding apparatus
System layer unit
Video layer unit
1901
1902
1903
Demultiplexing unit
Decoding unit
Output unit

FIG. 20

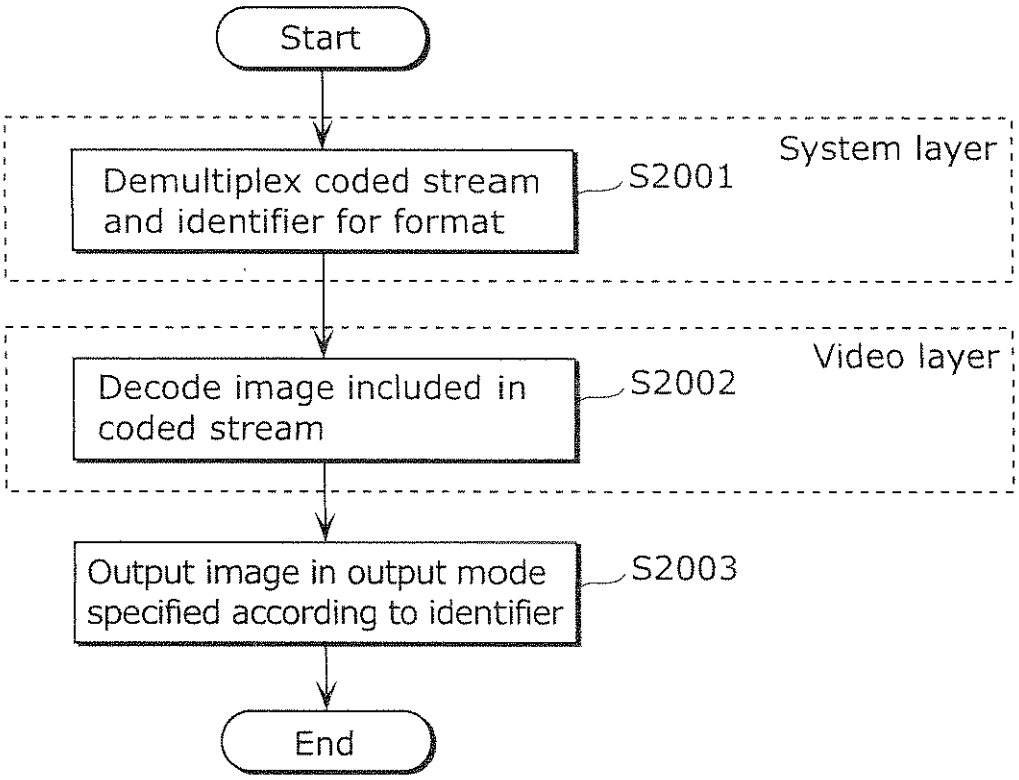

Start
System layer
Demultiplex coded stream and identifier for format
S2001
Video layer
Decode image included in coded stream
S2002
Output image in output mode specified according to identifier
S2003
End

FIG. 21

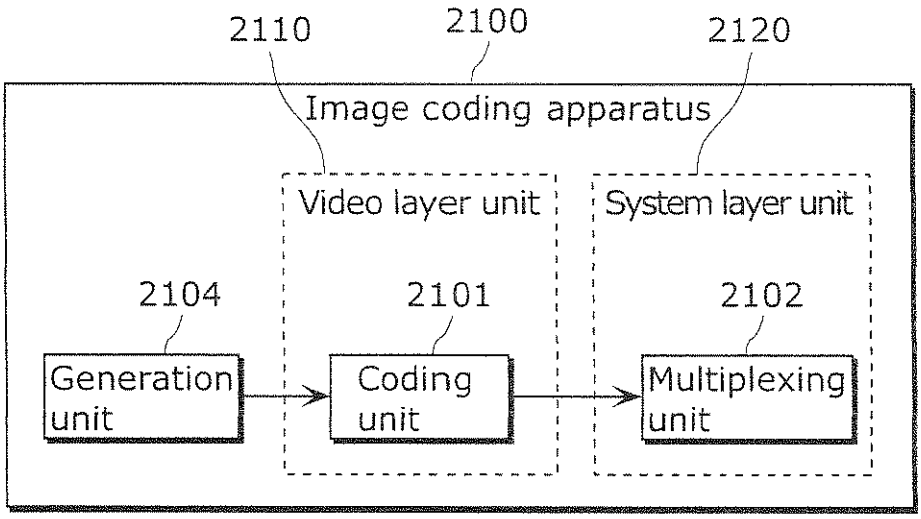

2110
2100
2120
Image coding apparatus
Video layer unit
System layer unit
2104
2101
2102
Generation unit
Coding unit
Multiplexing unit

FIG. 22

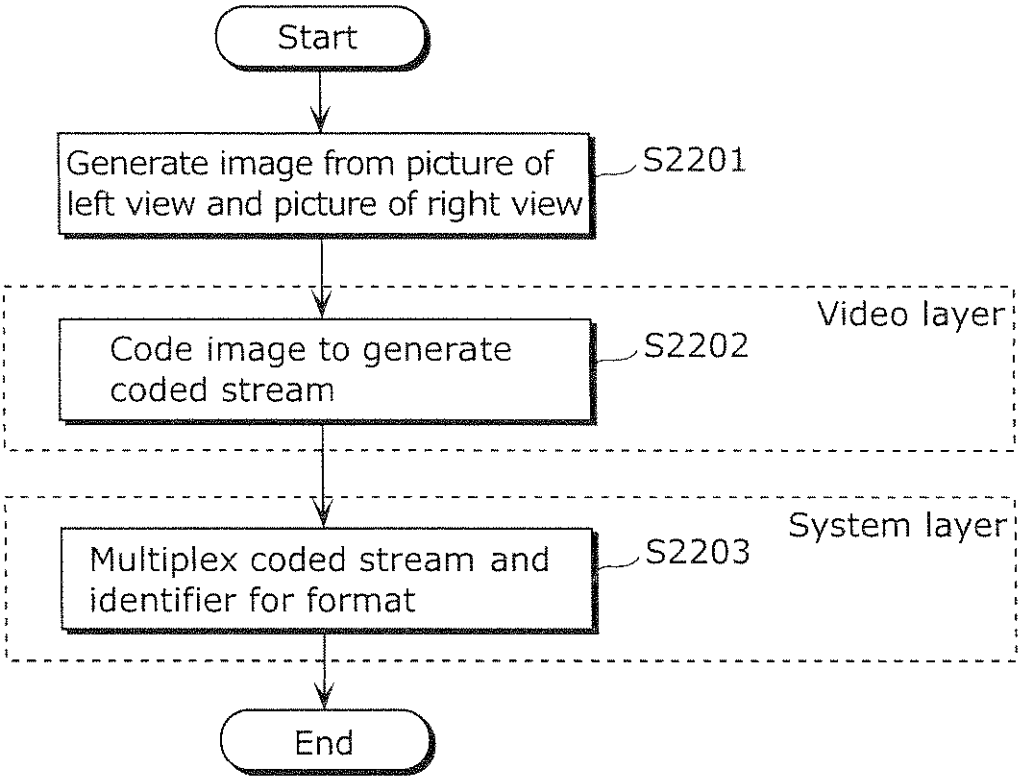

Start
Generate image from picture of left view and picture of right view
S2201
Video layer
Code image to generate coded stream
S2202
System layer
Multiplex coded stream and identifier for format
S2203
End

FIG. 23

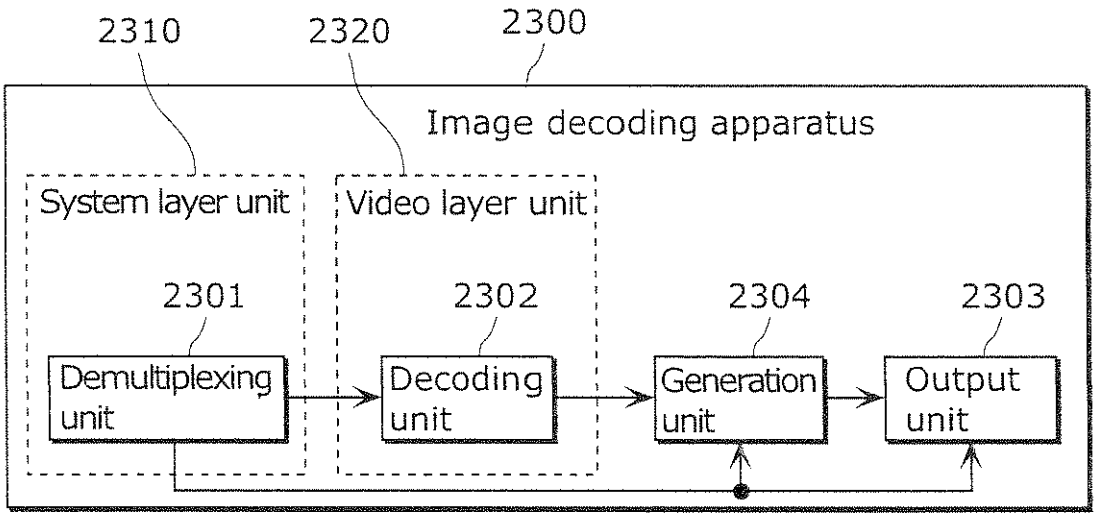

2310
2320
2300
Image decoding apparatus
System layer unit
Video layer unit
2301
2302
2304
2303
Demultiplexing unit
Decoding unit
Generation unit
Output unit

FIG. 24

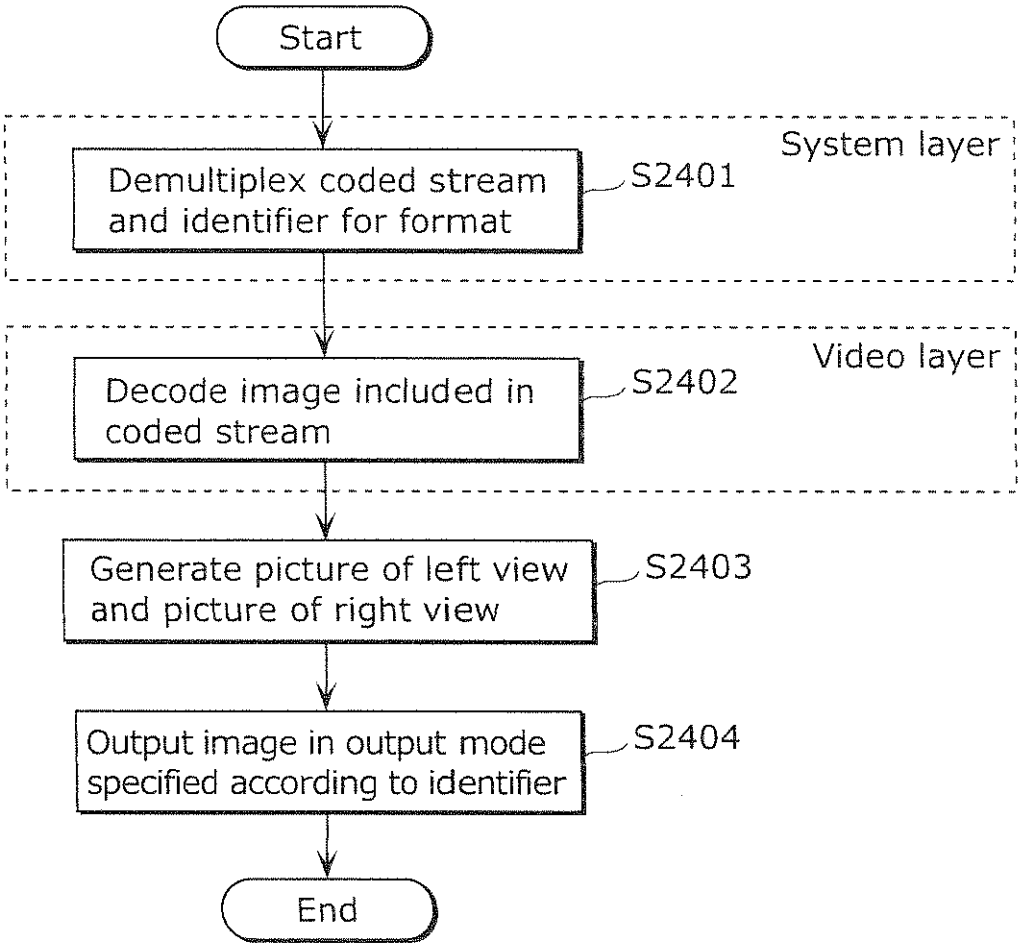

Start
System layer
Demultiplex coded stream and identifier for format
S2401
Video layer
Decode image included in coded stream
S2402
Generate picture of left view and picture of right view
S2403
Output image in output mode specified according to identifier
S2404
End

FIG. 25

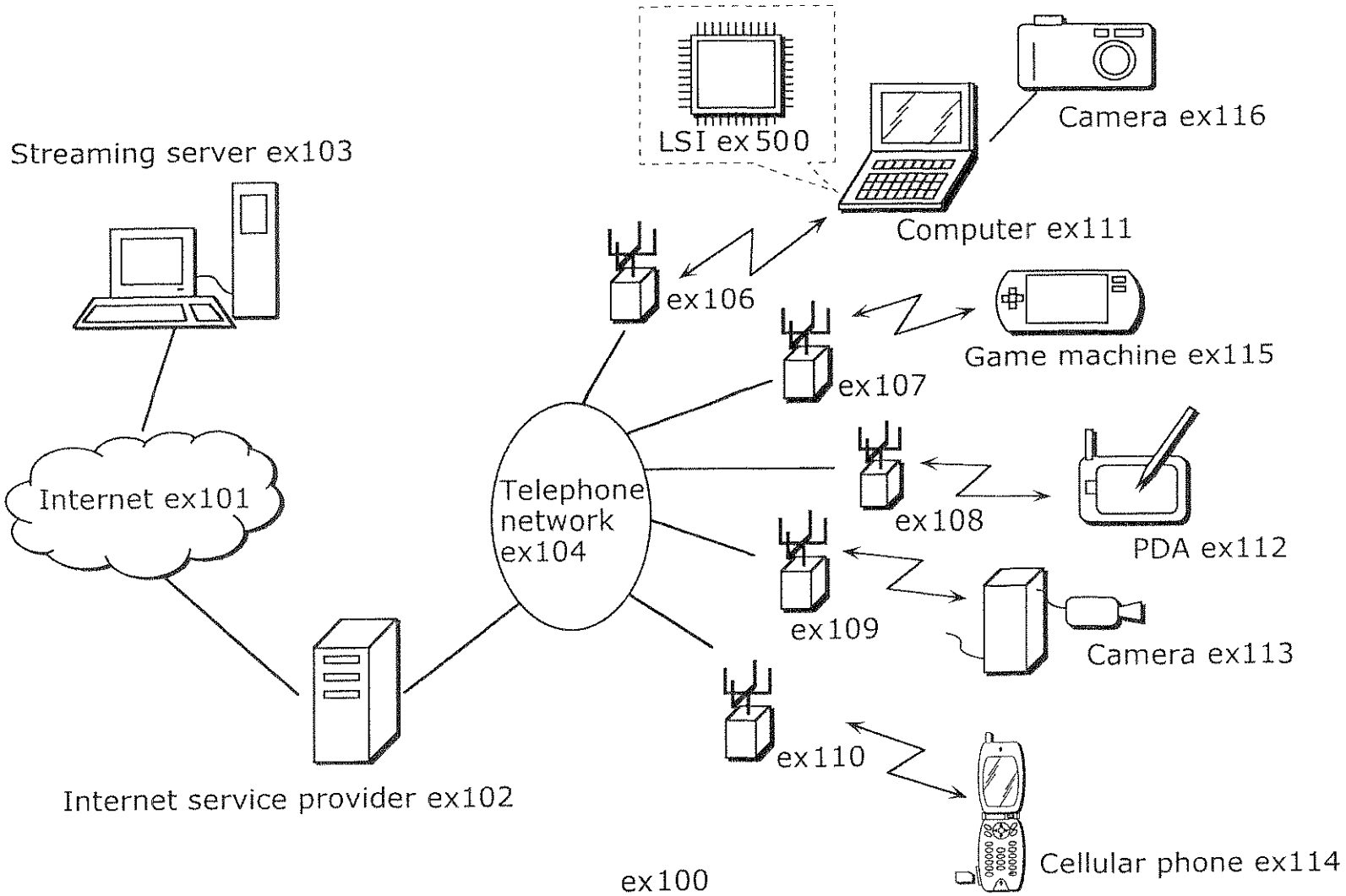

LSI ex500
Camera ex116
Streaming server ex103
Computer ex111
ex106
Game machine ex115
ex107
Internet ex101
Telephone network ex104
ex108
PDA ex112
ex109
Camera ex113
ex110
Internet service provider ex102
Cellular phone ex114
ex100

FIG. 26

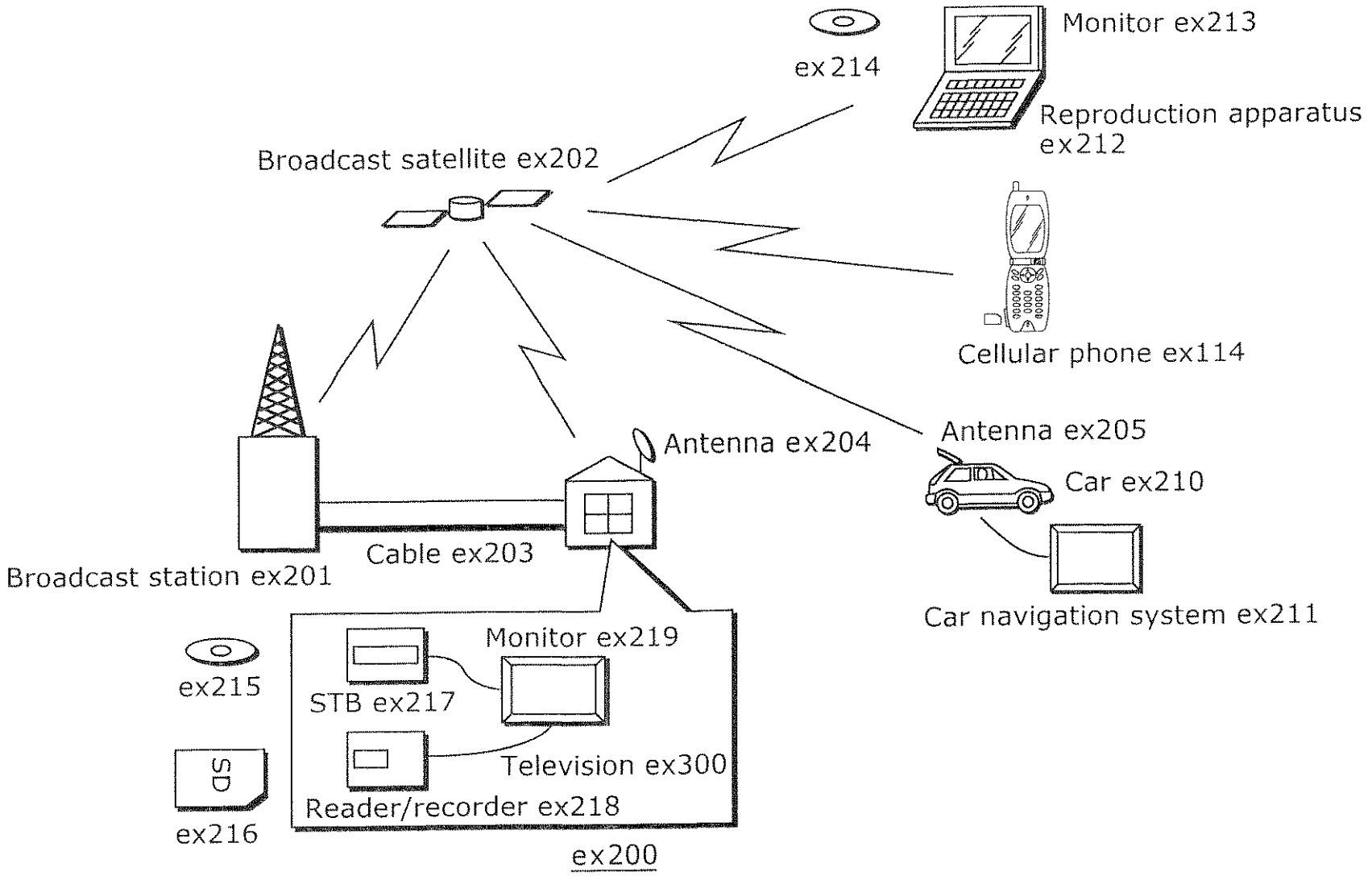

ex214
Monitor ex213
Reproduction apparatus ex212
Broadcast satellite ex202
Cellular phone ex114
Antenna ex204
Antenna ex205
Car ex210
Cable ex203
Broadcast station ex201
Car navigation system ex211
Monitor ex219
ex215
STB ex217
Television ex300
SD
Reader/recorder ex218
ex216
ex200

FIG. 27

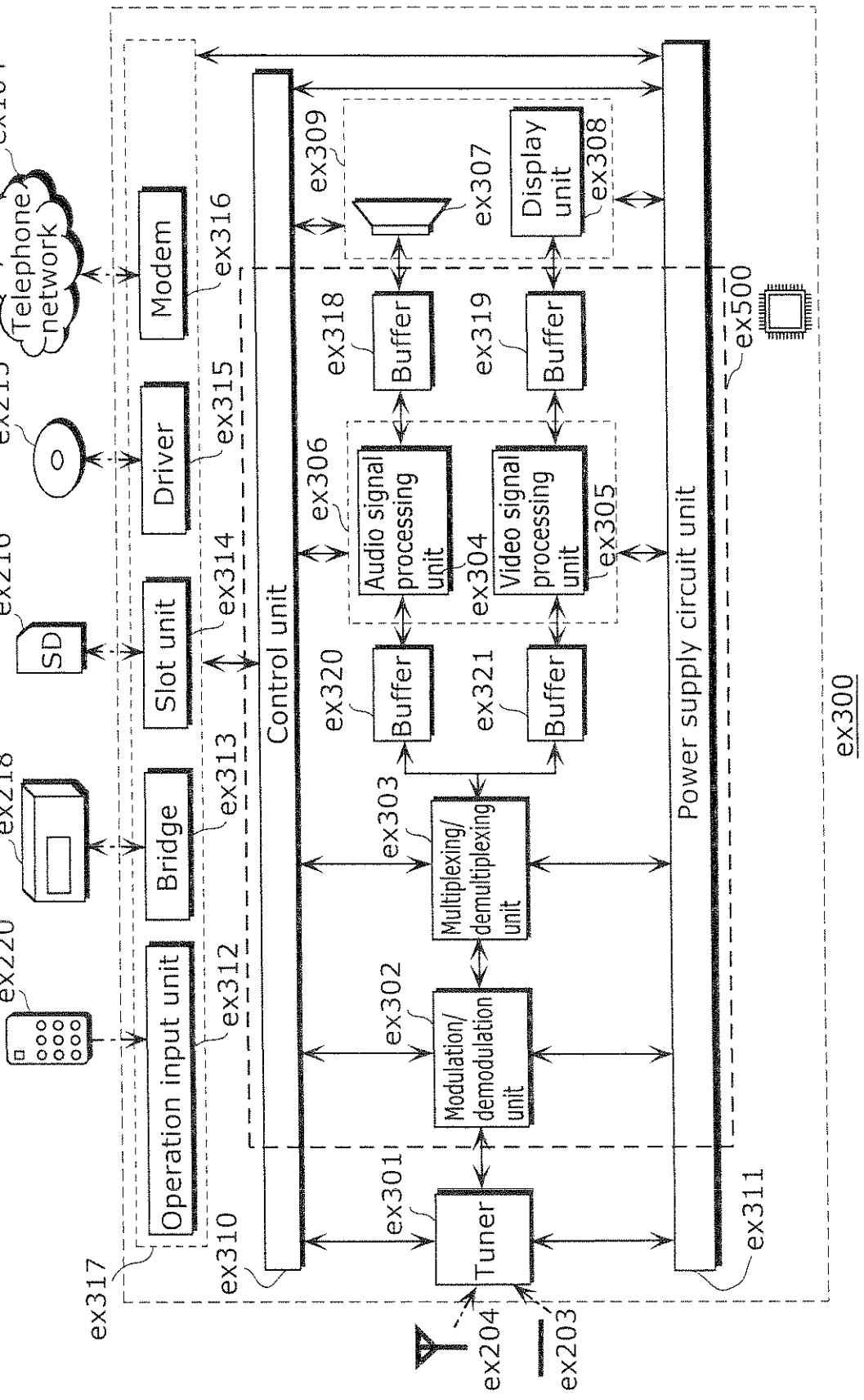

ex104
Telephone network
ex215
ex216
SD
ex218
ex220
Operation input unit
ex312
Bridge
ex313
Slot unit
ex314
Driver
ex315
Modem
ex316
ex317
ex310
Control unit
ex309
ex307
Display unit
ex308
ex318
Buffer
ex319
Buffer
ex306
Audio signal processing unit
ex304
Video signal processing unit
ex305
ex320
Buffer
ex321
Buffer
ex303
Multiplexing/ demultiplexing unit
ex302
Modulation/ demodulation unit
ex301
Tuner
ex204
ex203
Power supply circuit unit
ex311
ex500
ex300

FIG. 28

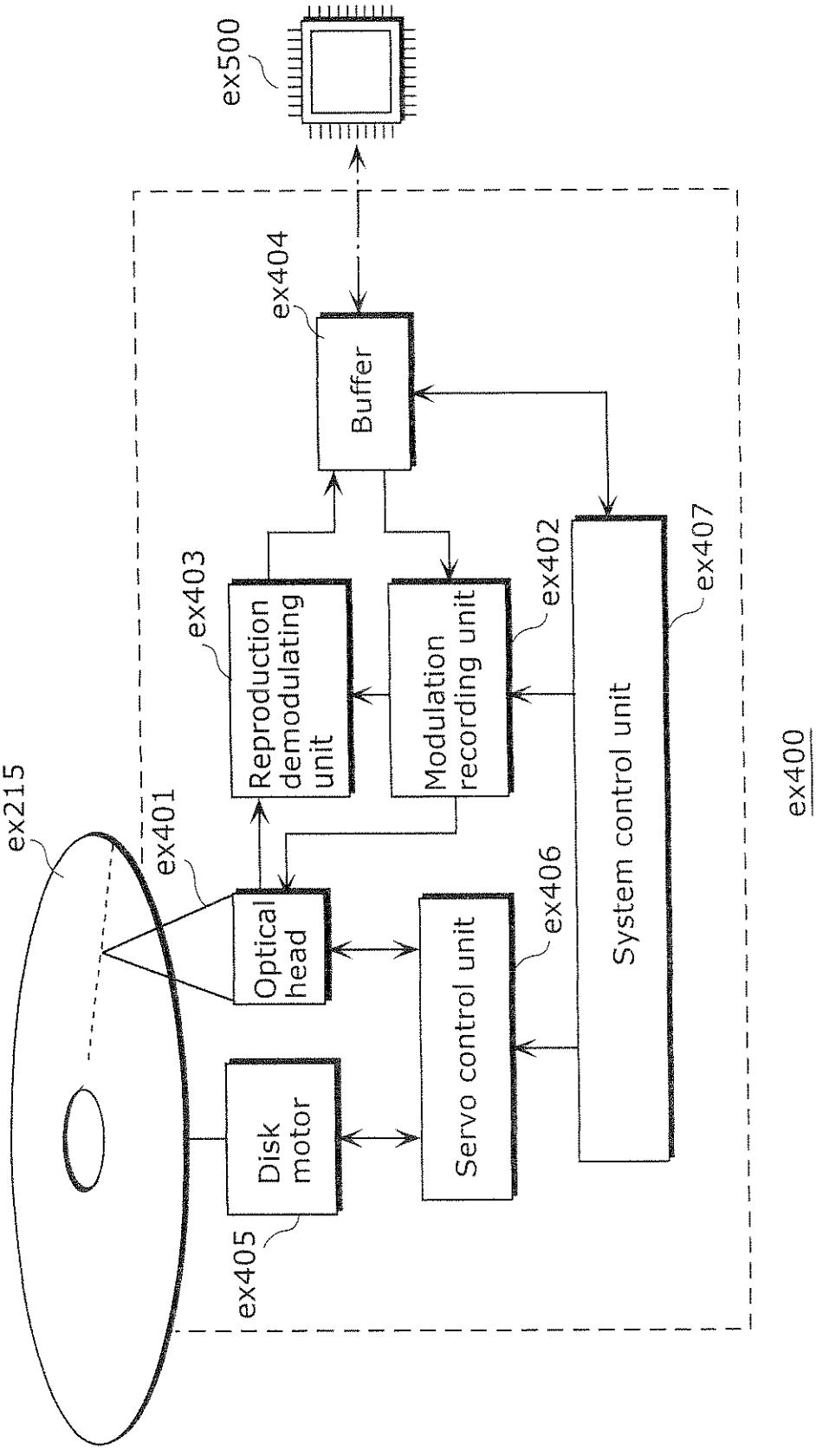

ex500
ex404
Buffer
ex403
Reproduction demodulating unit
ex402
Modulation recording unit
ex407
System control unit
ex215
ex401
Optical head
ex406
Servo control unit
Disk motor
ex405
ex400

FIG. 29

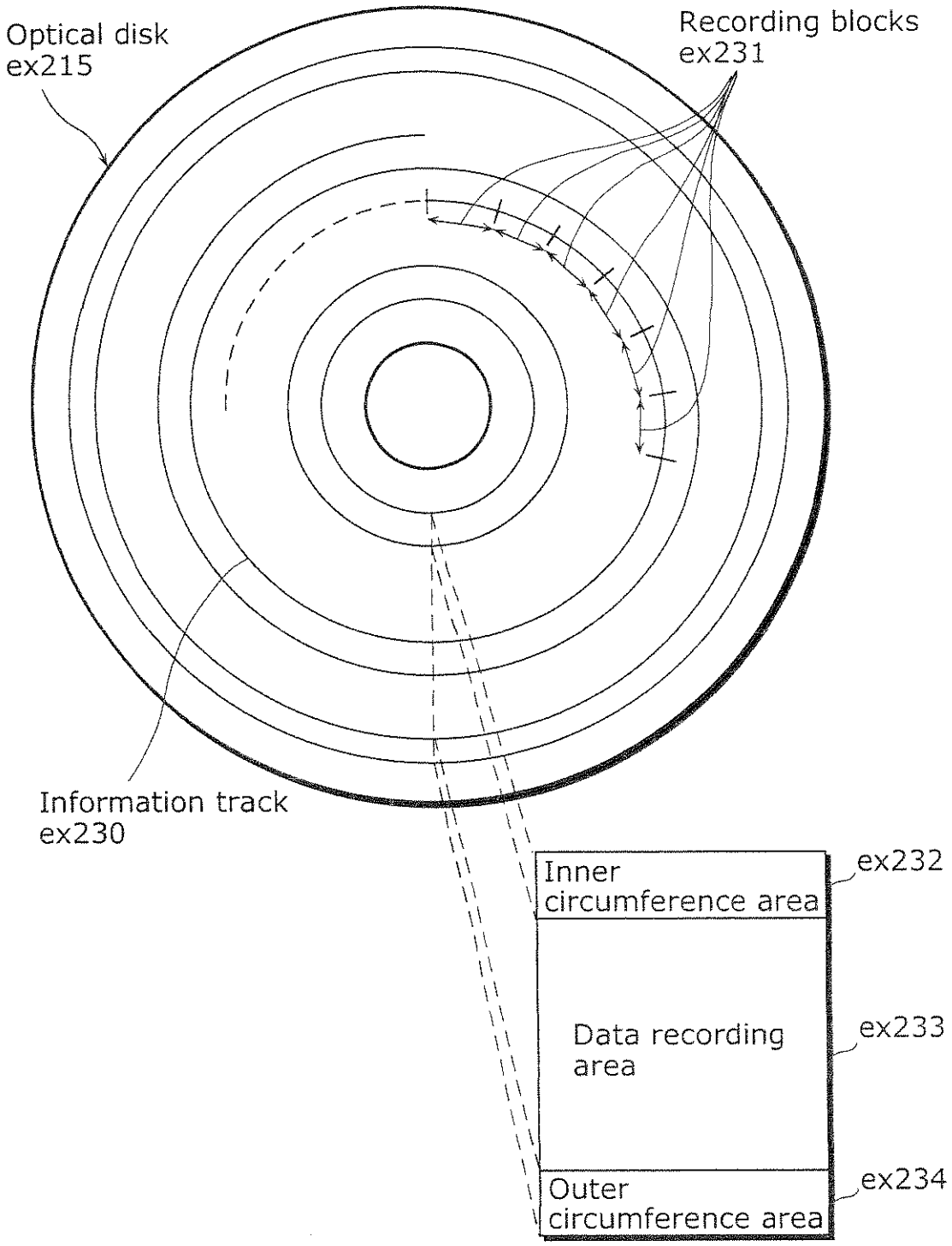

Optical disk
ex215
Recording blocks
ex231
Information track
ex230
Inner
circumference area
ex232
Data recording
area
ex233
Outer
circumference area
ex234

FIG. 30A

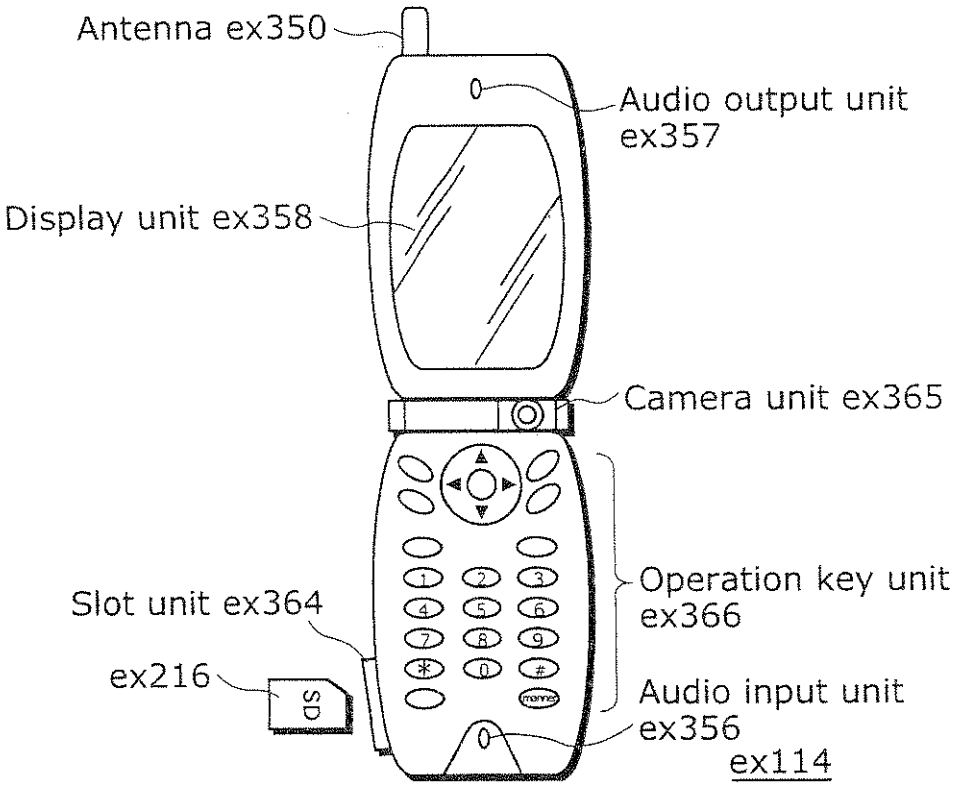


FIG. 30B

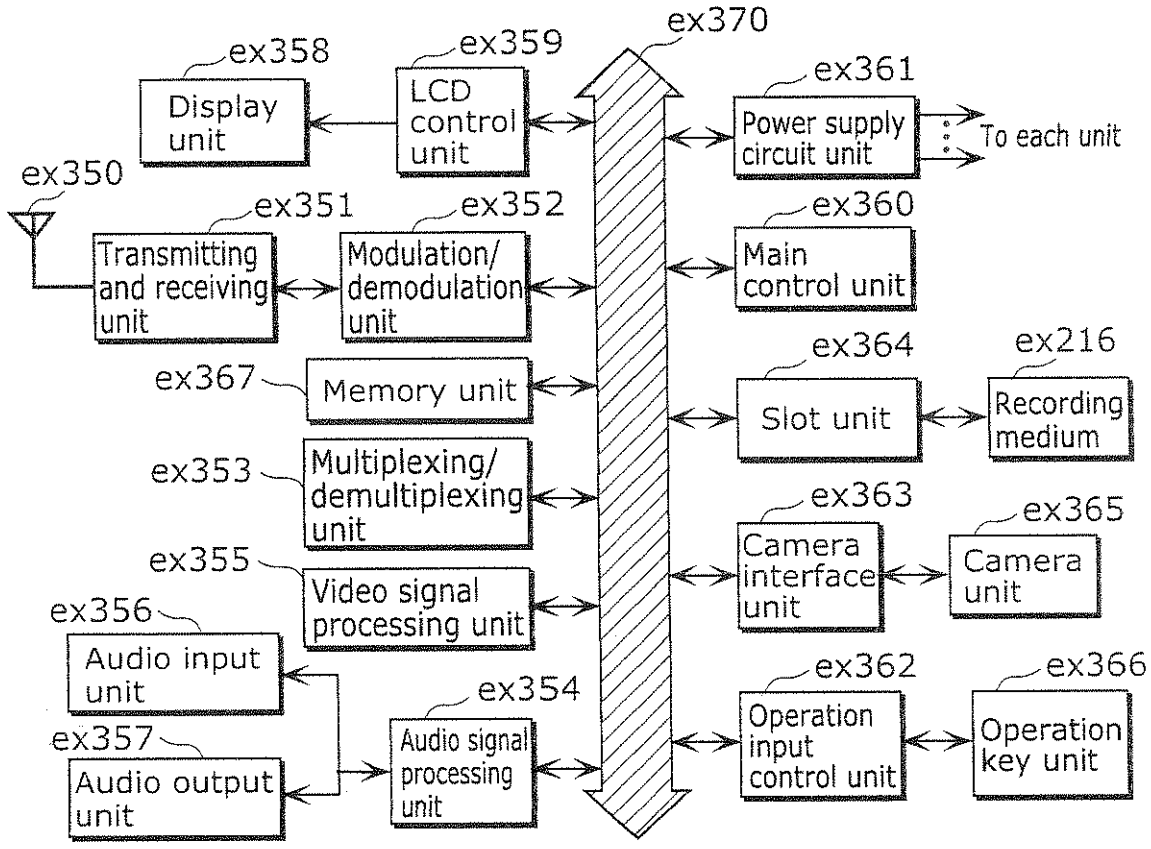


FIG. 31

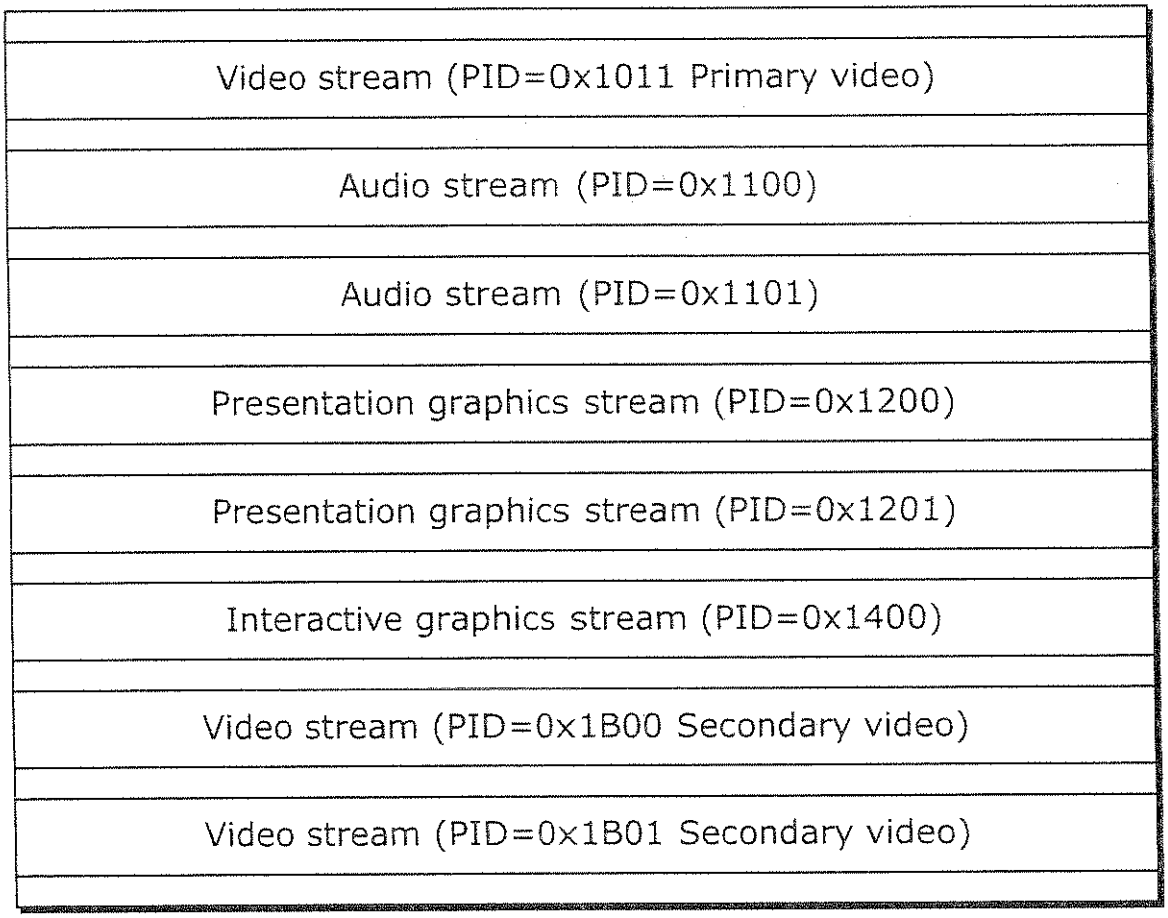

Video stream (PID=0x1011 Primary video)
Audio stream (PID=0x1100)
Audio stream (PID=0x1101)
Presentation graphics stream (PID=0x1200)
Presentation graphics stream (PID=0x1201)
Interactive graphics stream (PID=0x1400)
Video stream (PID=0x1B00 Secondary video)
Video stream (PID=0x1B01 Secondary video)

FIG. 32

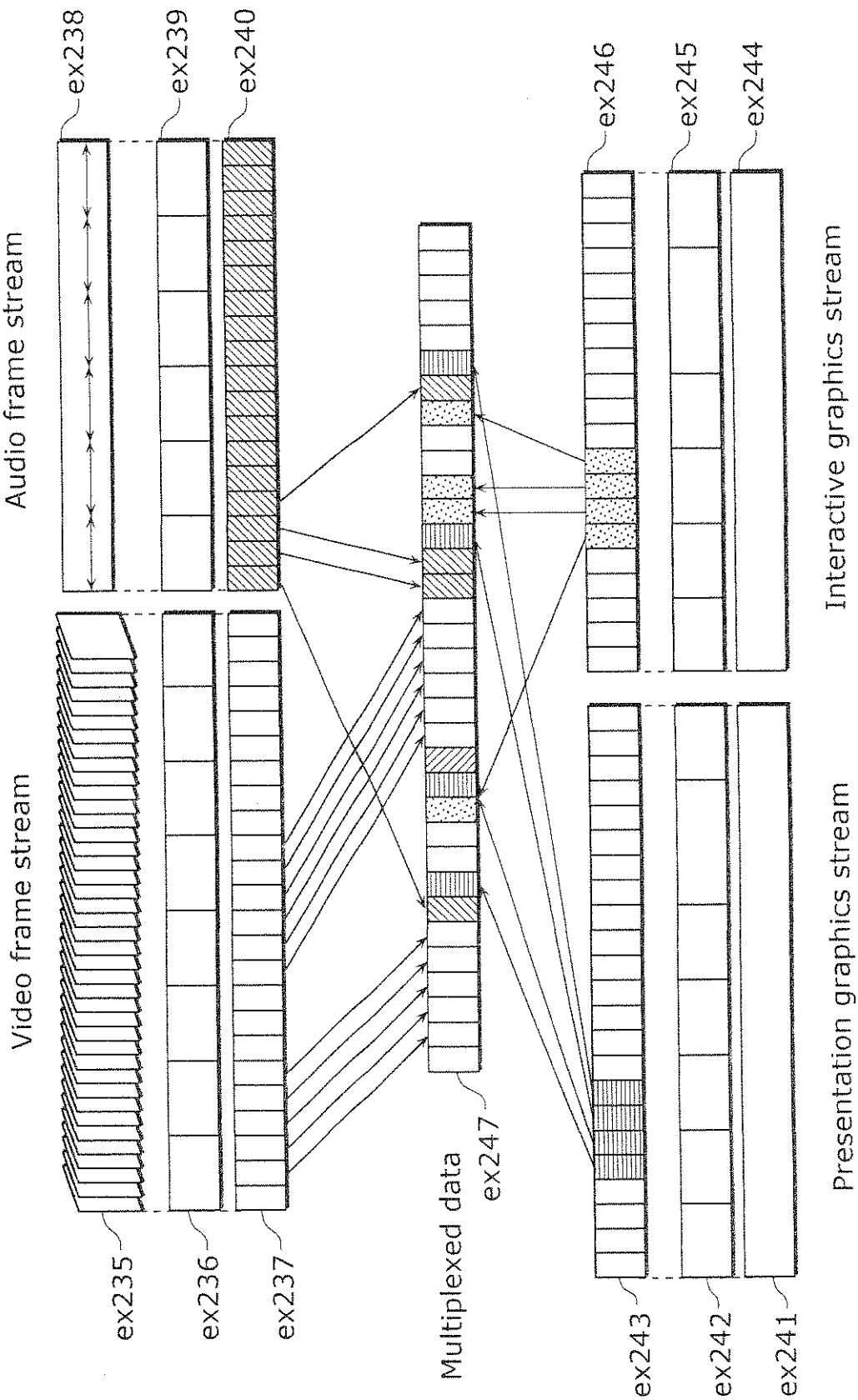

ex238
ex239
ex240
ex246
ex245
ex244
Audio frame stream
Video frame stream
Interactive graphics stream
Presentation graphics stream
ex235
ex236
ex237
Multiplexed data
ex247
ex243
ex242
ex241

FIG. 33

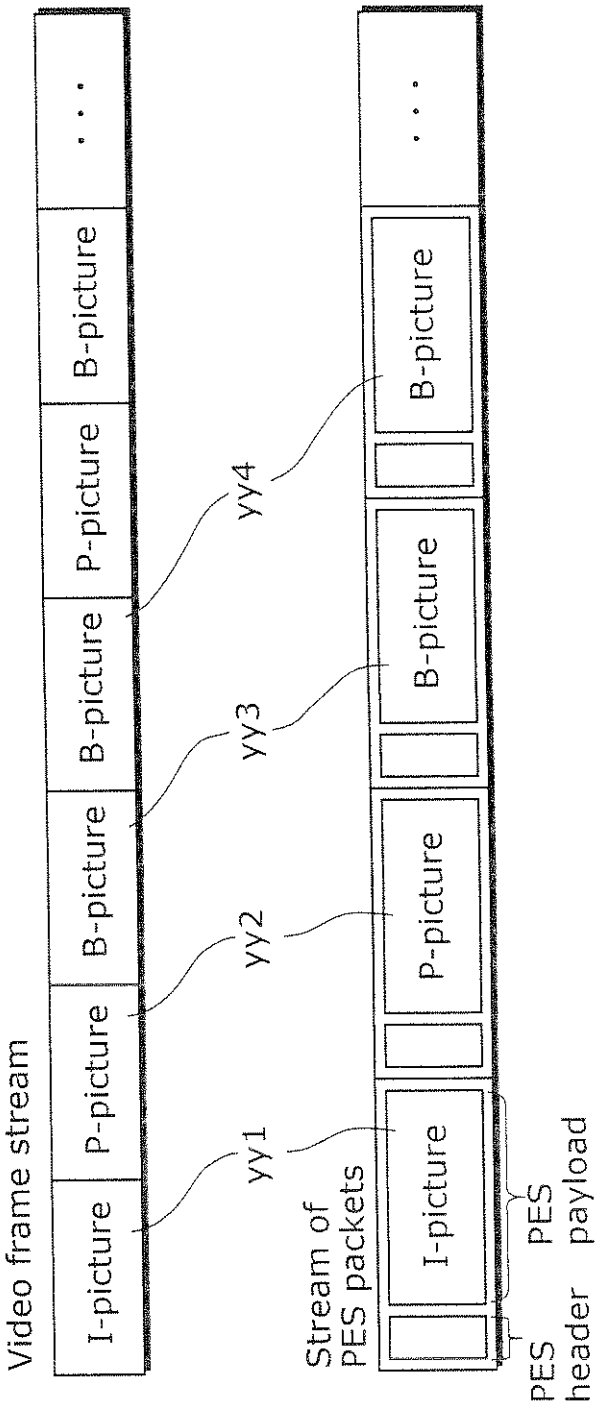

Video frame stream
I-picture
P-picture
B-picture
B-picture
P-picture
B-picture
. . .
yy1
yy2
yy3
yy4
Stream of PES packets
I-picture
P-picture
B-picture
B-picture
. . .
PES header
PES payload

FIG. 34

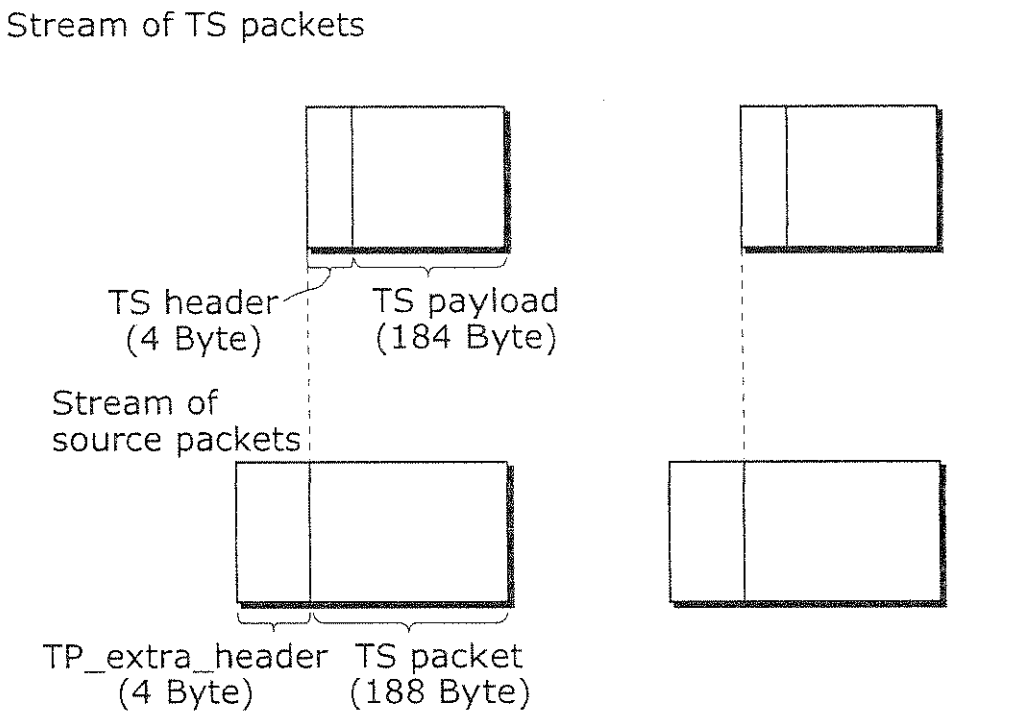

Stream of TS packets
TS header
(4 Byte)
TS payload
(184 Byte)
Stream of
source packets
TP_extra_header
(4 Byte)
TS packet
(188 Byte)
Multiplexed data
SPN 0 1 2 3 4 5 6 7 ...
Source packet

FIG. 35

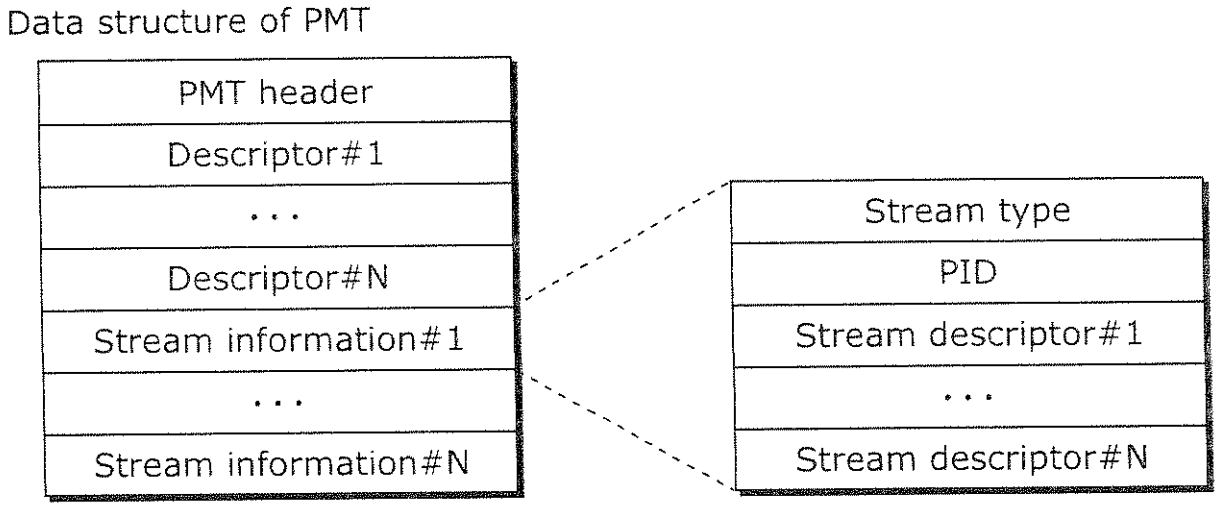

Data structure of PMT
PMT header
Descriptor#1
...
Descriptor#N
Stream information#1
...
Stream information#N
Stream type
PID
Stream descriptor#1
...
Stream descriptor#N

FIG. 36

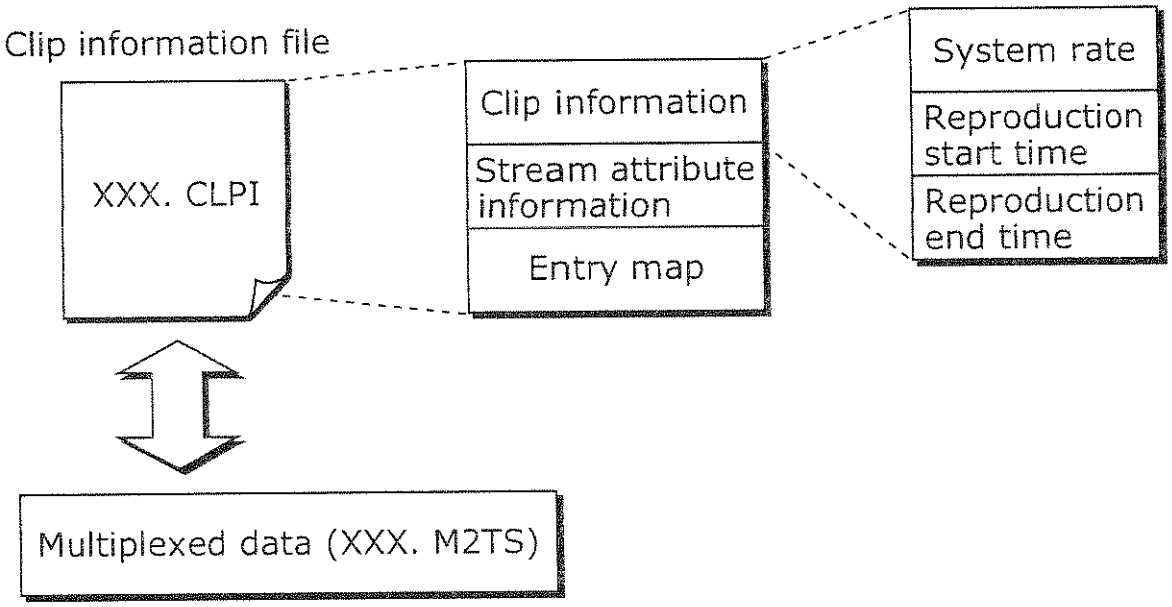

Clip information file
XXX. CLPI
Clip information
Stream attribute information
Entry map
System rate
Reproduction start time
Reproduction end time
Multiplexed data (XXX. M2TS)

FIG. 37

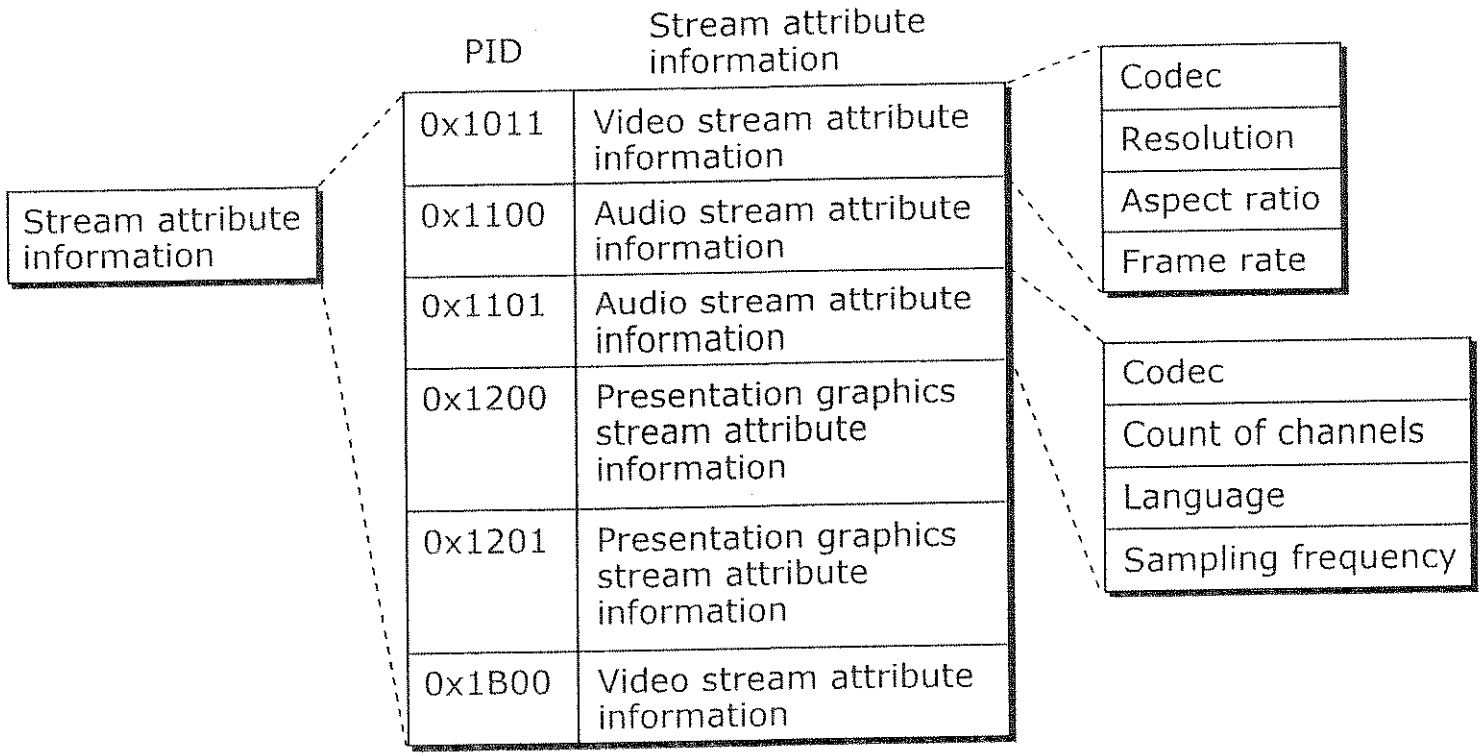

Stream attribute information
PID
Stream attribute information
0x1011
Video stream attribute information
0x1100
Audio stream attribute information
0x1101
Audio stream attribute information
0x1200
Presentation graphics stream attribute information
0x1201
Presentation graphics stream attribute information
0x1B00
Video stream attribute information
Codec
Resolution
Aspect ratio
Frame rate
Codec
Count of channels
Language
Sampling frequency

FIG. 38

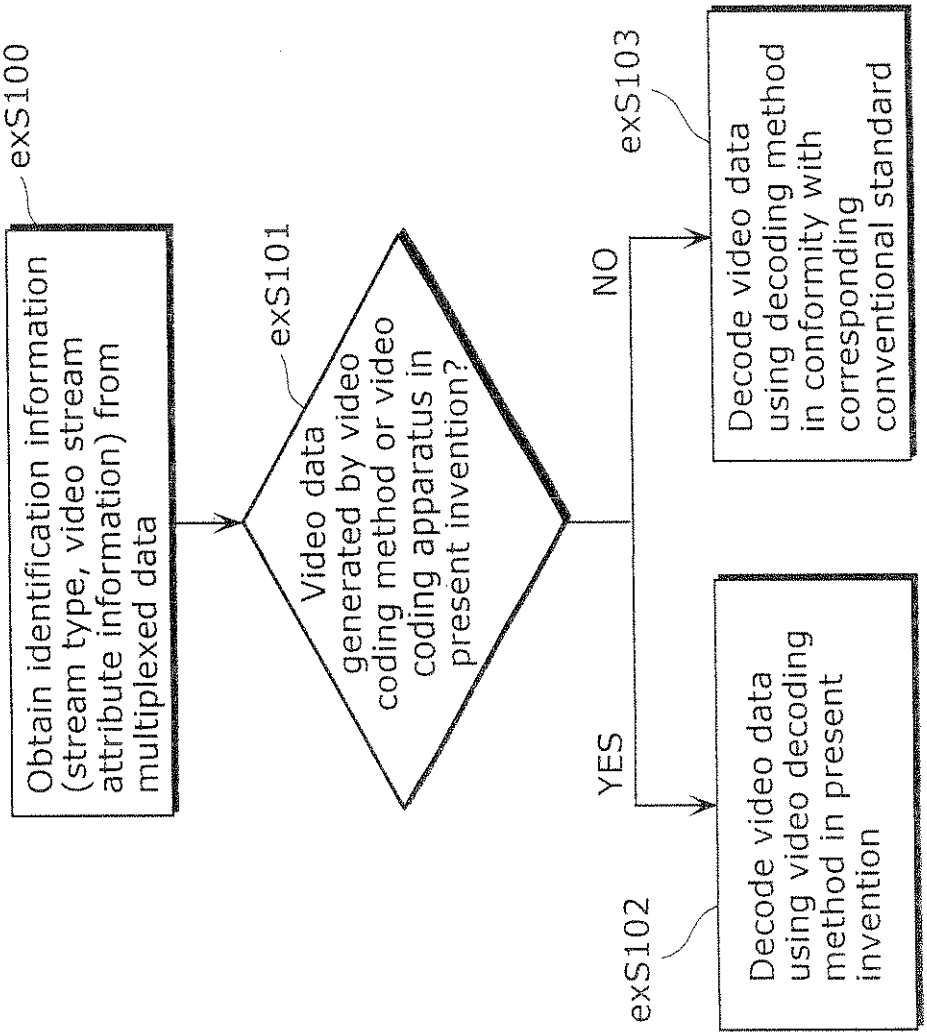

exS100
Obtain identification information (stream type, video stream attribute information) from multiplexed data
exS101
Video data generated by video coding method or video coding apparatus in present invention?
YES
NO
exS102
Decode video data using video decoding method in present invention
exS103
Decode video data using decoding method in conformity with corresponding conventional standard

FIG. 39

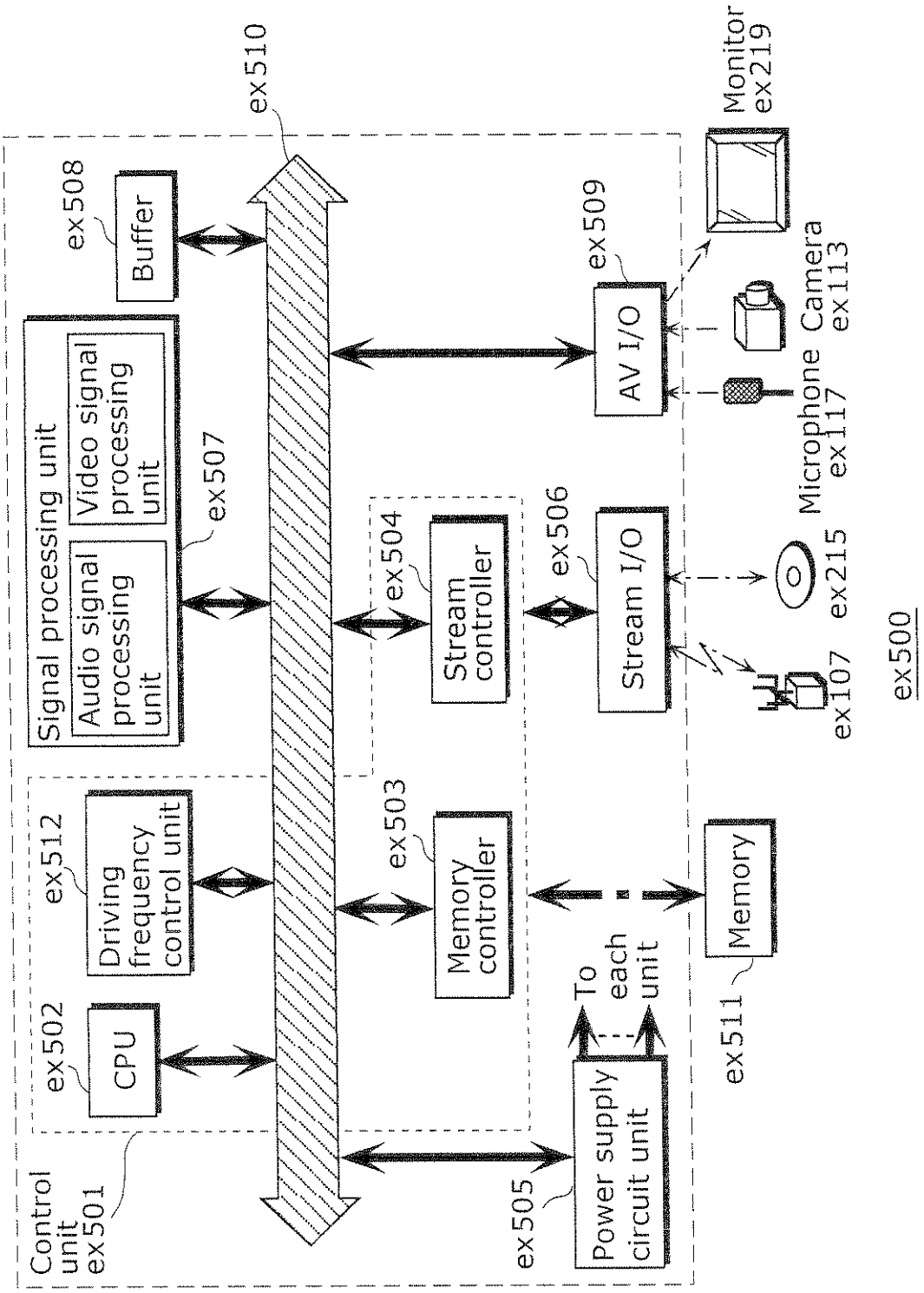

ex500
Control unit ex501
CPU ex502
Driving frequency control unit ex512
Memory controller ex503
Stream controller ex504
Power supply circuit unit ex505
To each unit
Signal processing unit
Audio signal processing unit
Video signal processing unit ex507
Buffer ex508
ex510
Stream I/O ex506
AV I/O ex509
Memory ex511
Monitor ex219
Camera ex113
Microphone ex117
ex215
ex107

FIG. 40

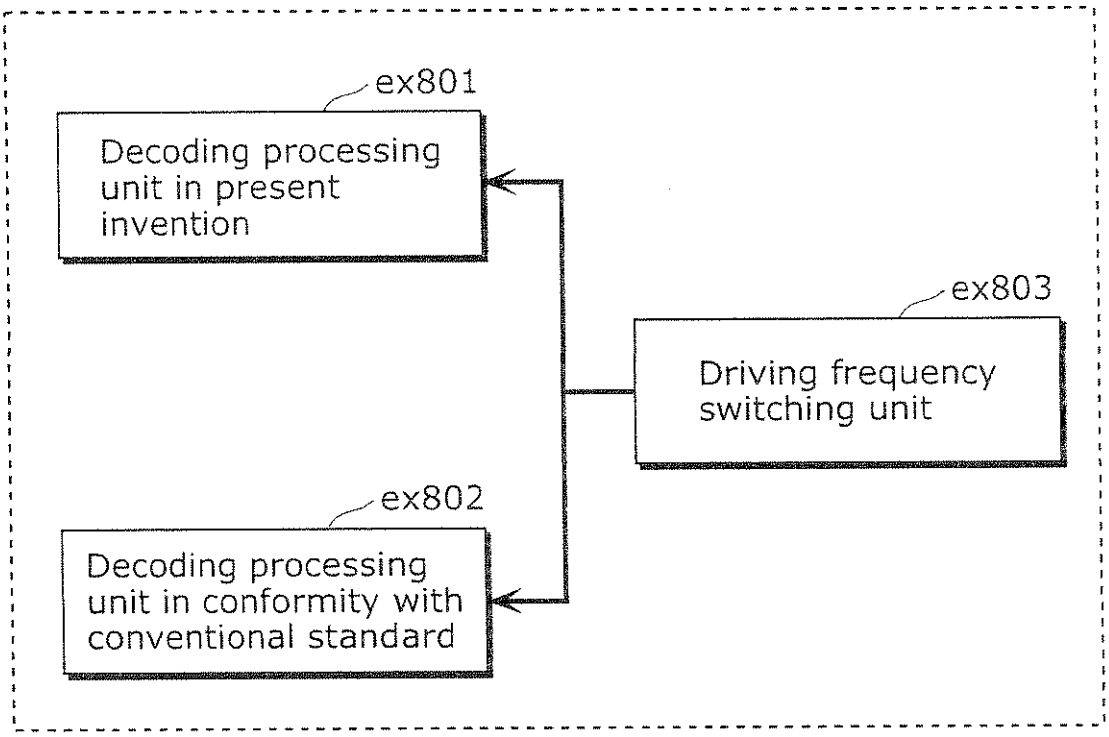

ex801
Decoding processing unit in present invention
ex803
Driving frequency switching unit
ex802
Decoding processing unit in conformity with conventional standard

FIG. 41

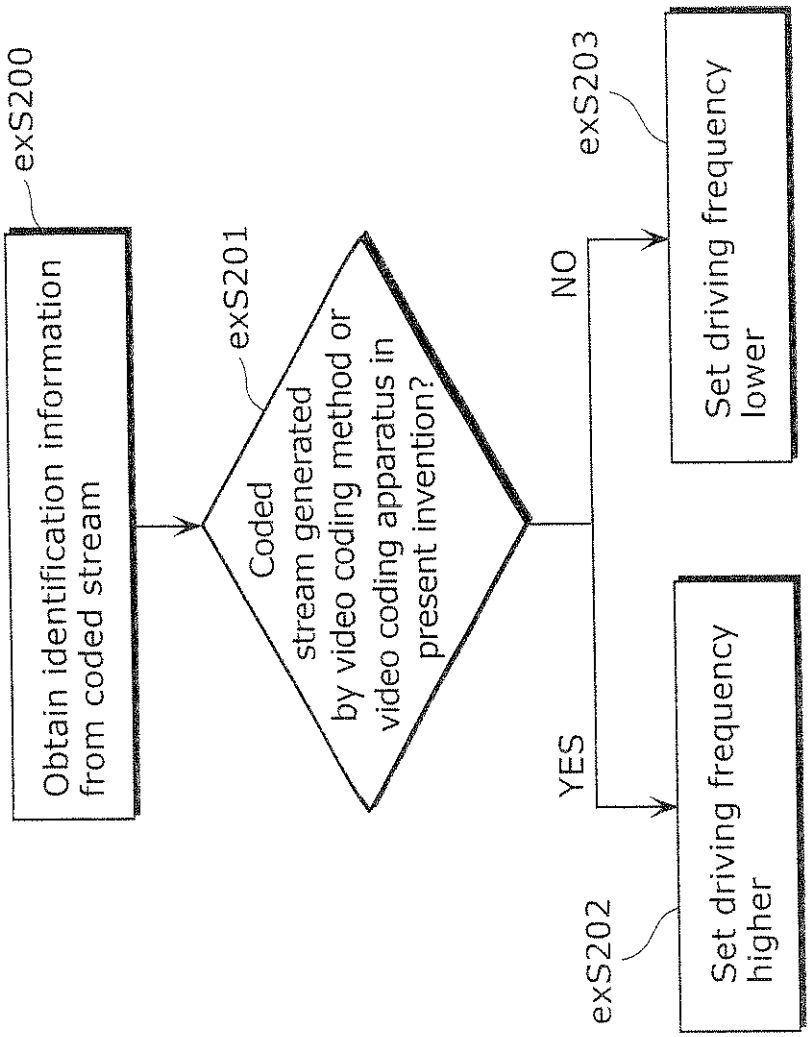

exS200
Obtain identification information from coded stream
exS201
Coded stream generated by video coding method or video coding apparatus in present invention?
YES
NO
exS202
Set driving frequency higher
exS203
Set driving frequency lower

FIG. 42

Corresponding standard	Driving frequency
MPEG4. AVC	500 MHz
MPEG2	350 MHz
⋮	⋮

FIG. 43A

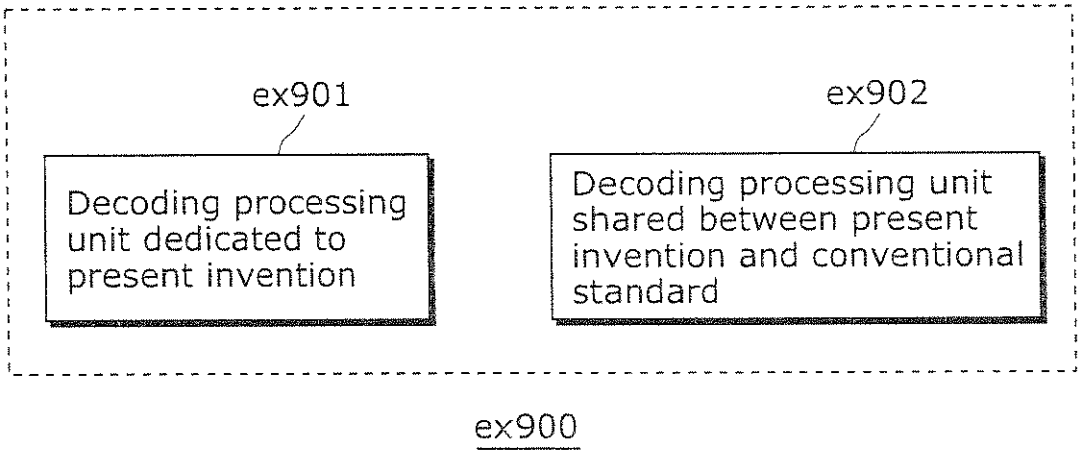
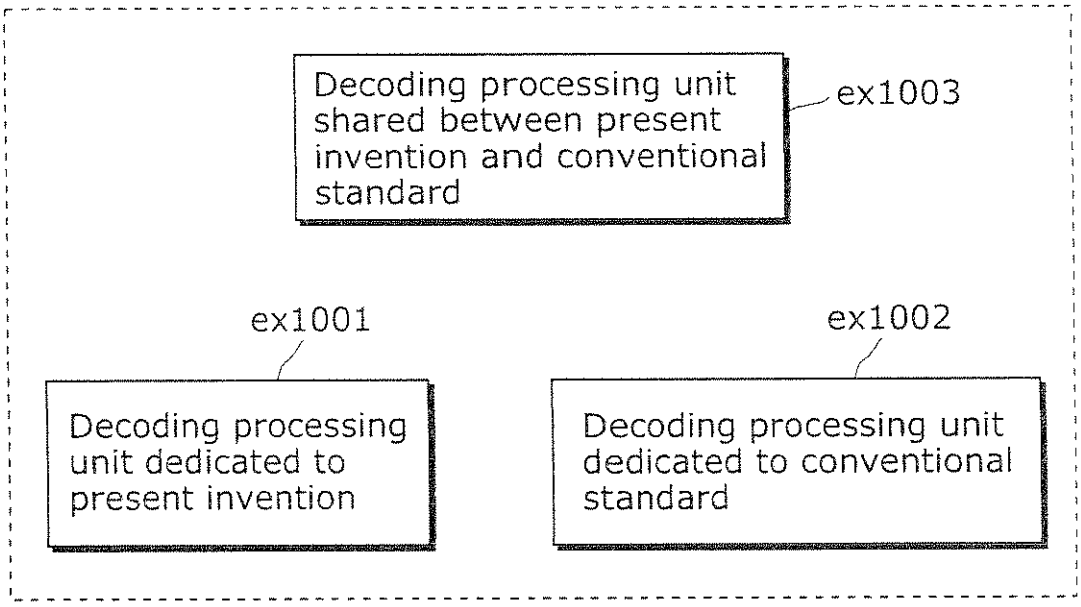


FIG. 43B


Decoding processing unit shared between present invention and conventional standard
ex1003
ex1001
ex1002
Decoding processing unit dedicated to present invention
Decoding processing unit dedicated to conventional standard
ex1000