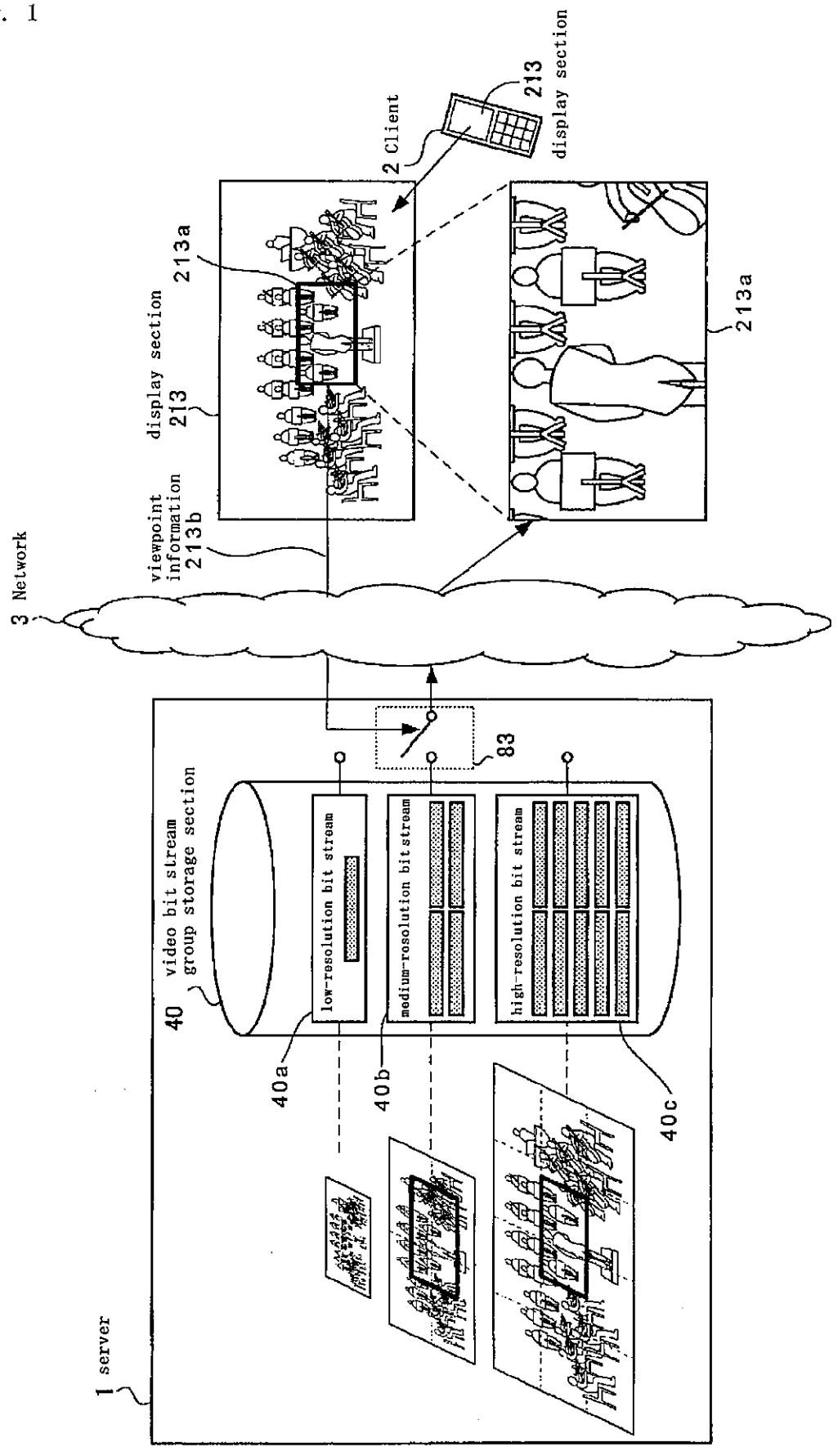
Fig. 1



Transmission system schematic drawing

Fig. 2

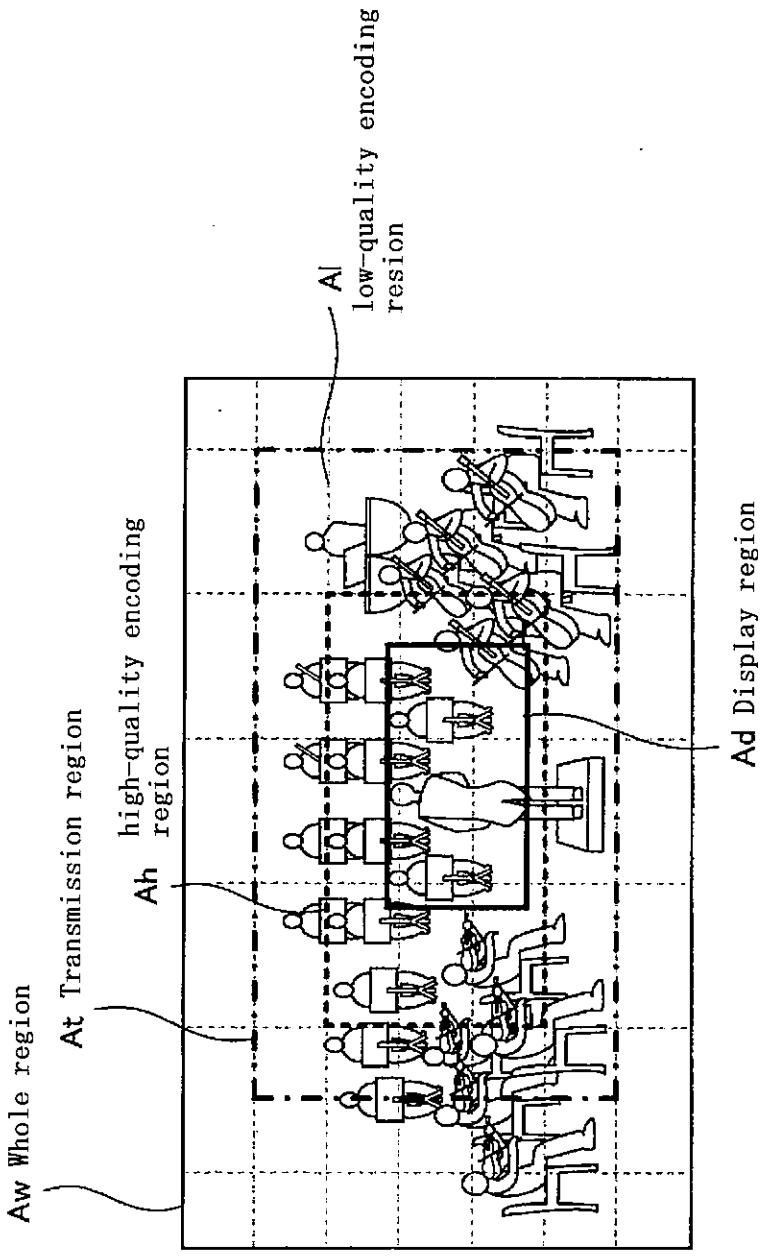

Aw Whole region
At Transmission region
Ah high-quality encoding region
Al low-quality encoding resion
Ad Display region

Fig. 3

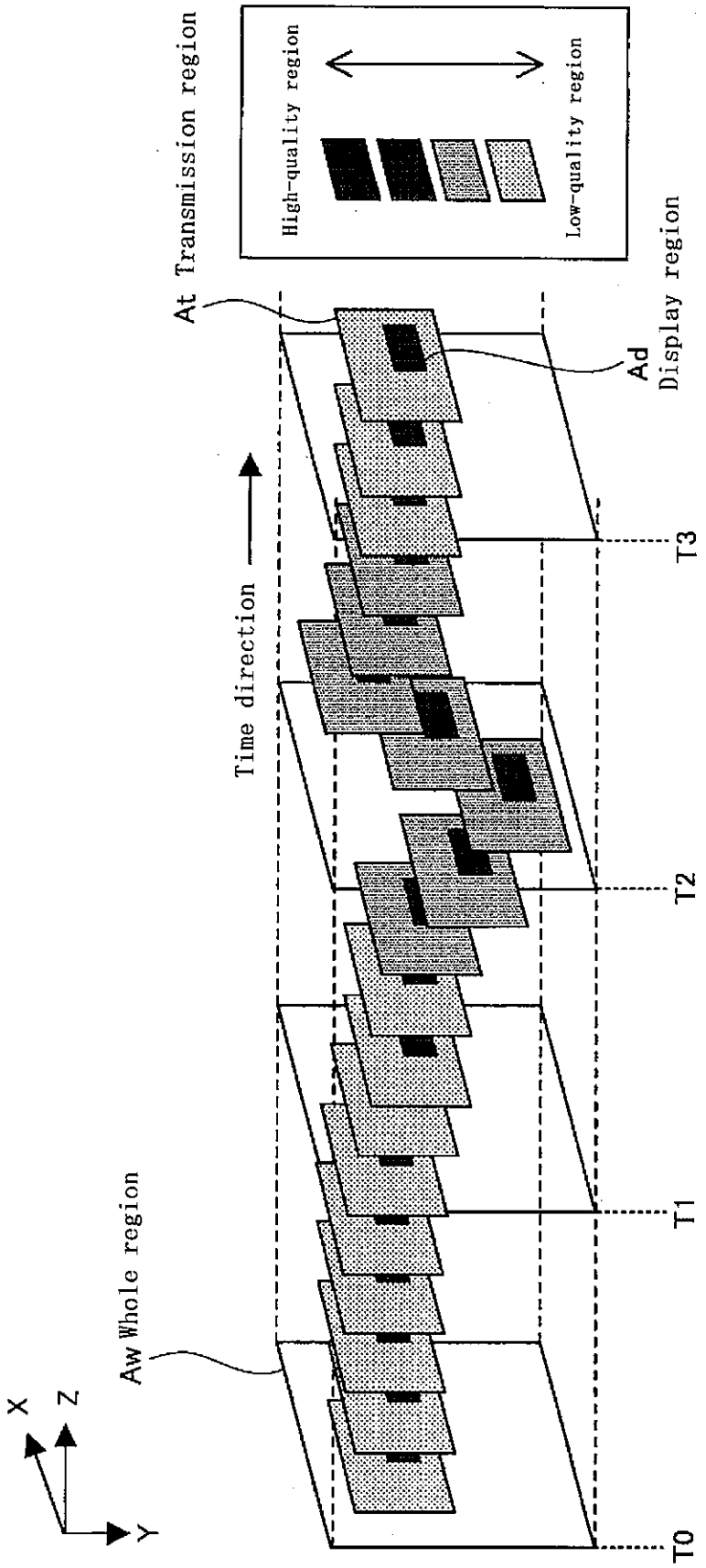

At Transmission region
High-quality region
Low-quality region
Ad
Display region
Time direction
T3
T2
T1
T0
Aw Whole region
X
Z
Y

Fig. 4

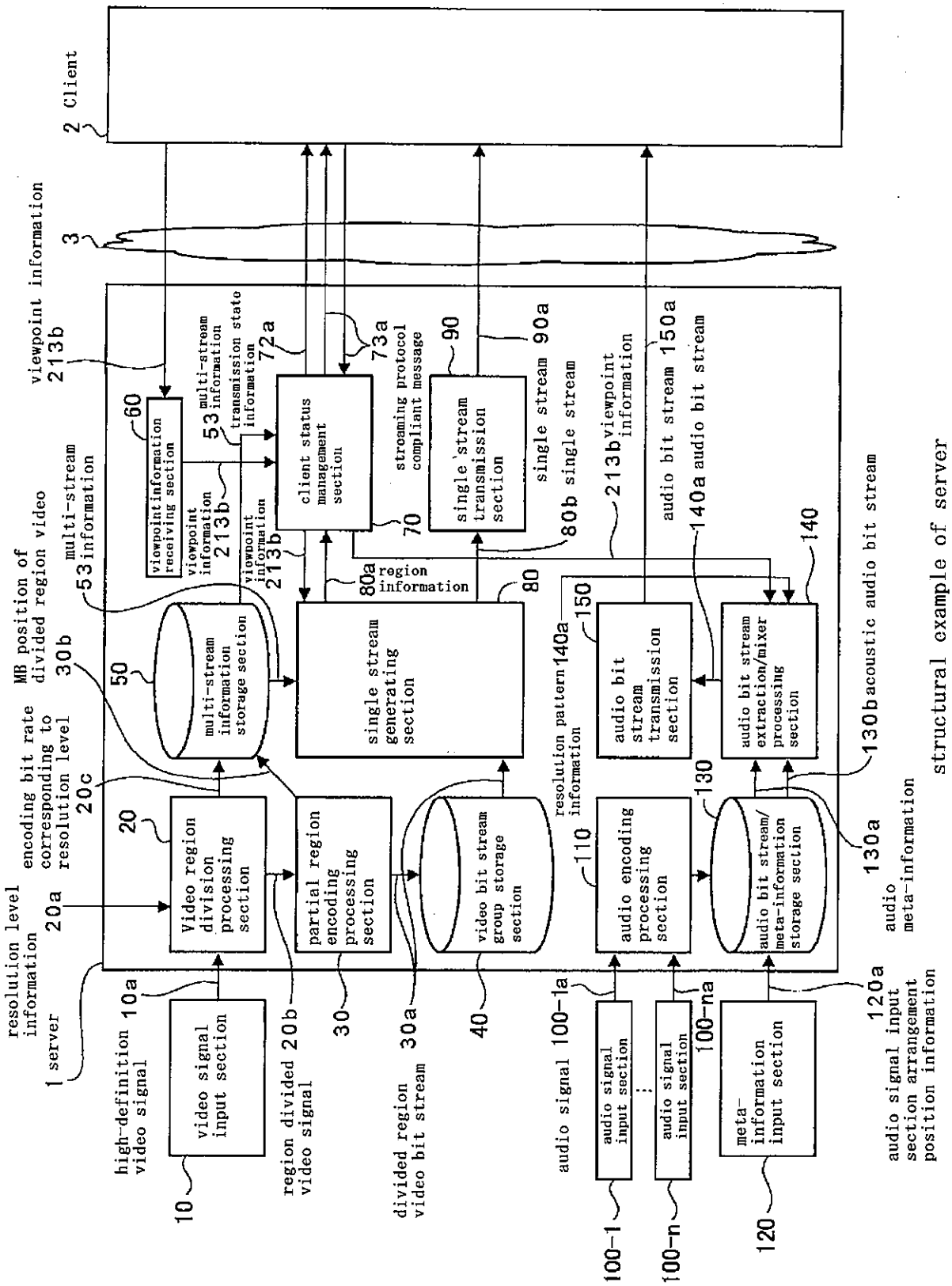

2 Client
3
viewpoint information
213b
1 server
resolution level information
20a
encoding bit rate corresponding to resolution level
20c
MB position of divided region video multi-stream information
53
30b
50
multi-stream information storage section
60
viewpoint information receiving section
viewpoint information 213b
53 multi-stream information
transmission state information 72a
73a
streaming protocol compliant message
70
client status management section
90
single stream transmission section
90a single stream
80b single stream
213b viewpoint information
audio bit stream 150a
140a audio bit stream
140
80a region information
80
single stream generating section
resolution pattern information 140a
150
audio bit stream transmission section
audio bit stream extraction/mixer processing section
130b acoustic audio bit stream
130
130a
audio meta-information
high-definition video signal
10a
video signal input section
10
Video region division processing section
20
region divided video signal
20b
partial region encoding processing section
30
divided region video bit stream
30a
video bit stream group storage section
40
audio signal
100-1a
audio signal input section
100-1
audio encoding processing section
110
audio signal
100-na
audio signal input section
100-n
audio bit stream/ meta-information storage section
meta-information input section
120
120a
audio signal input section arrangement position information
structural example of server

Fig. 5

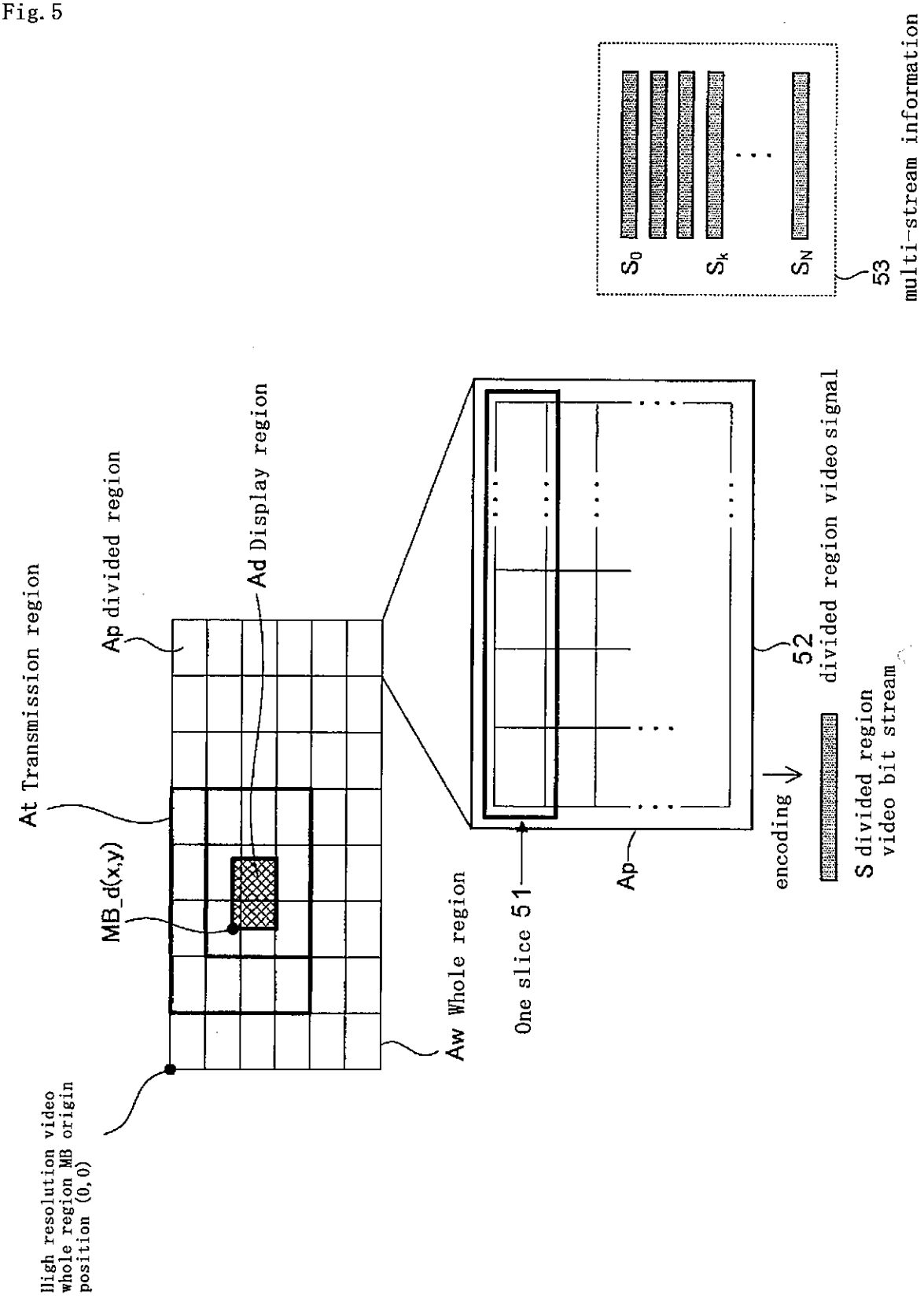
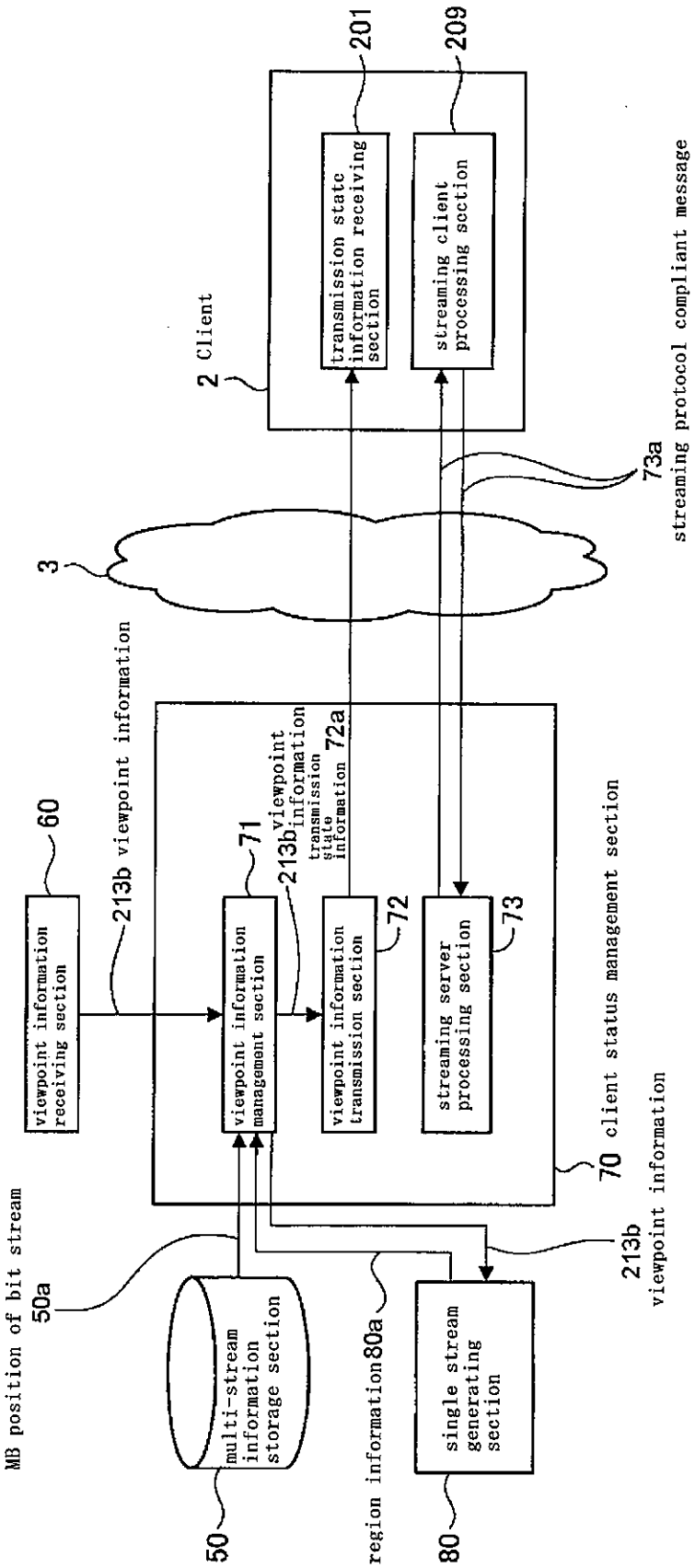
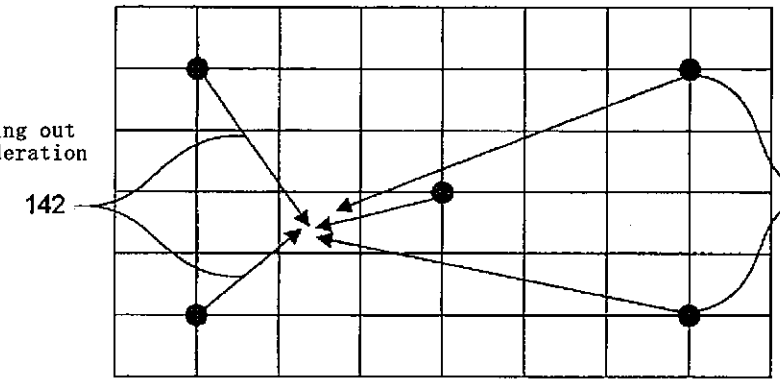

High resolution video
whole region MB origin
position (0,0)
Aw Whole region
At Transmission region
Ap divided region
Ad Display region
MB_d(x,y)
One slice 51
Ap
encoding
52
divided region video signal
S divided region
video bit stream
S_0
S_k
S_N
53
multi-stream information

Fig. 6



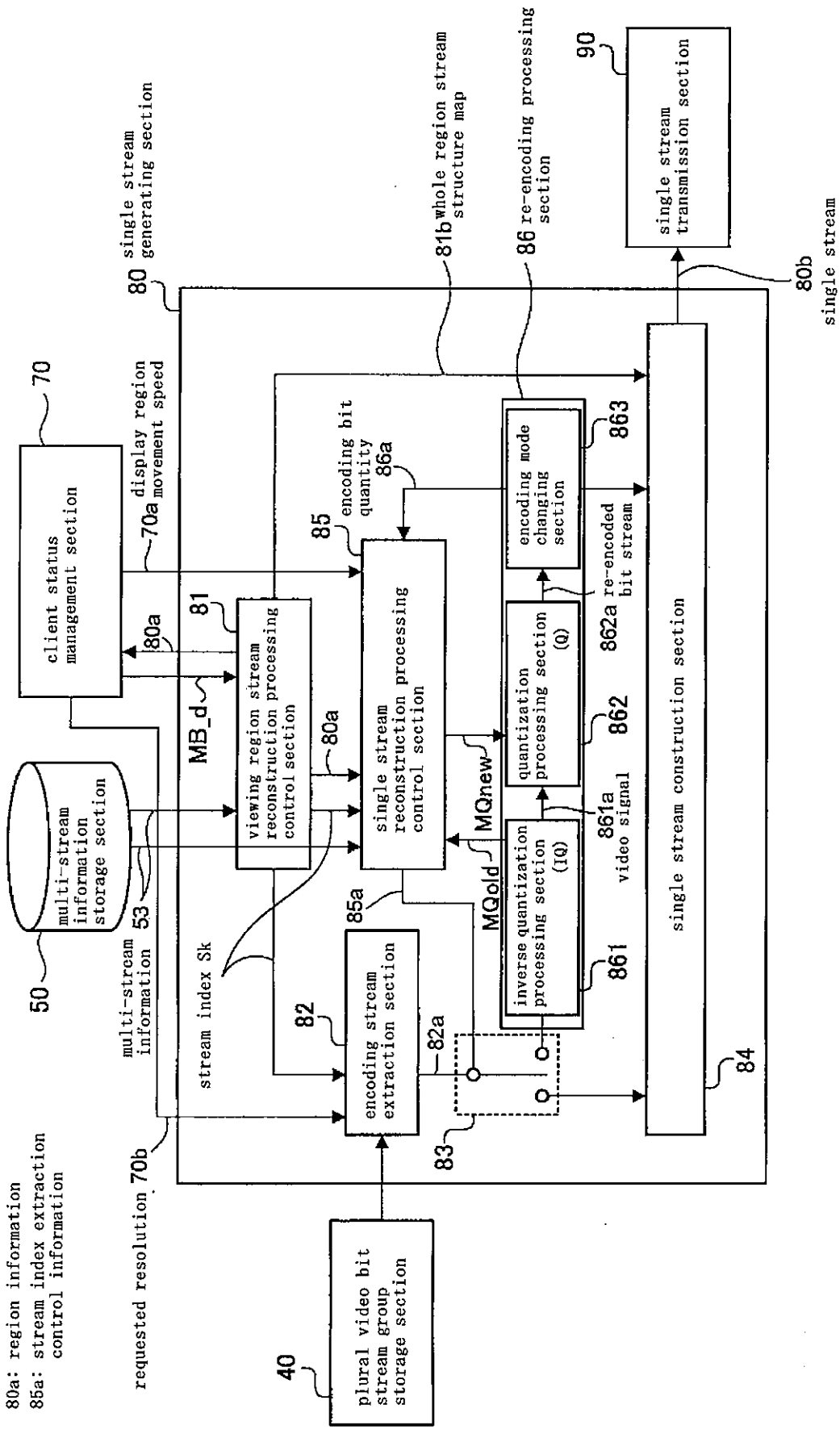
internal structural example of client status management section

Fig. 7



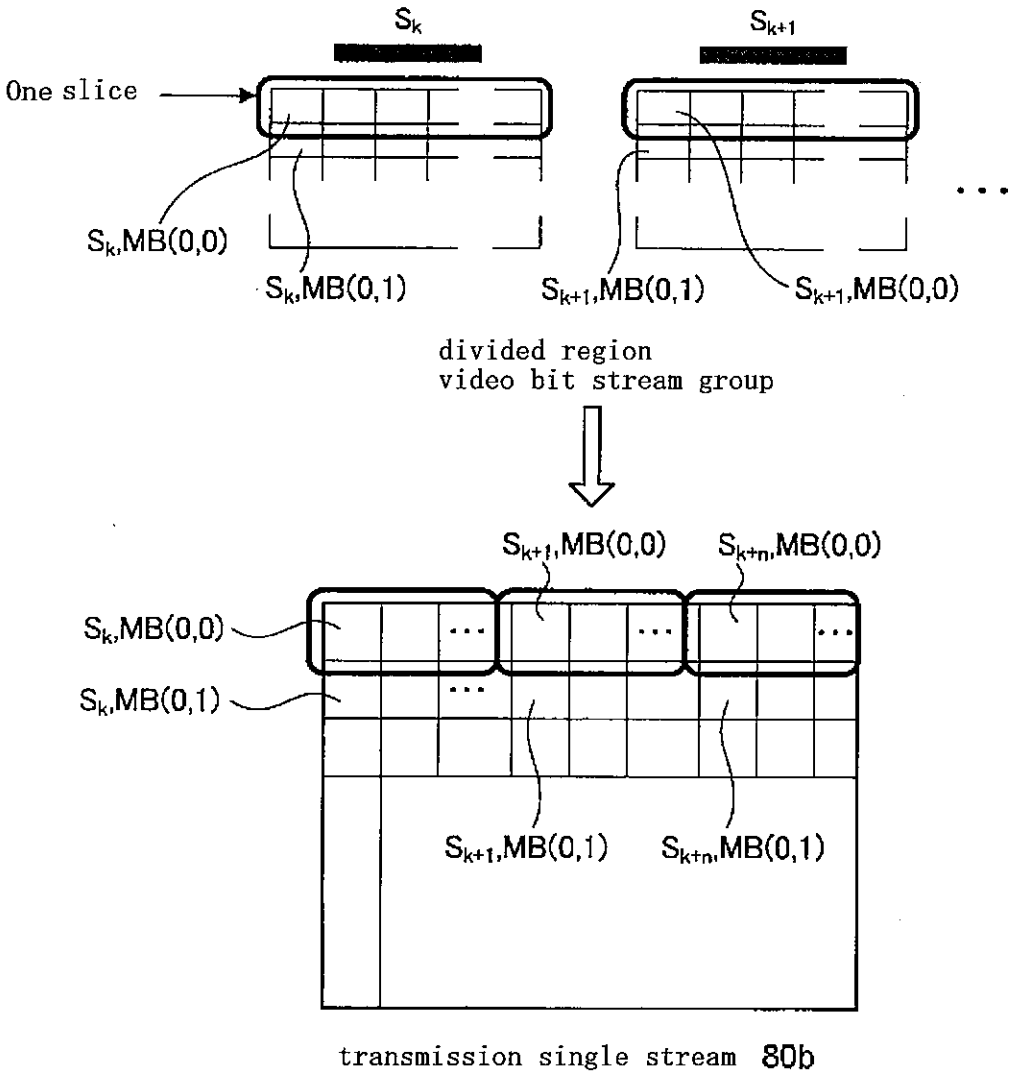
Example of mixer processing of audio bit stream extraction/ mixer processing section

Fig. 8



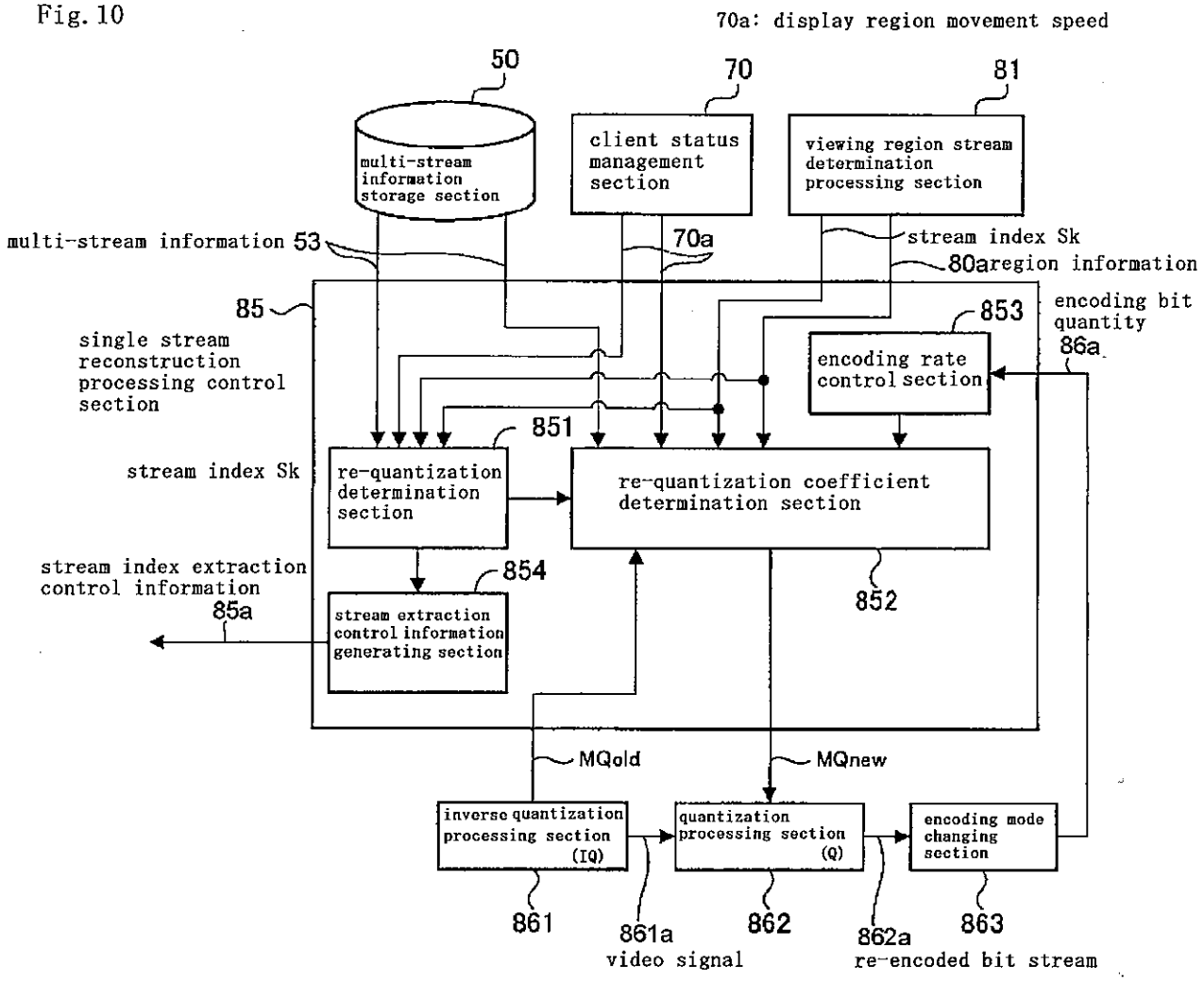
internal structural example of single stream generating section

Fig. 9



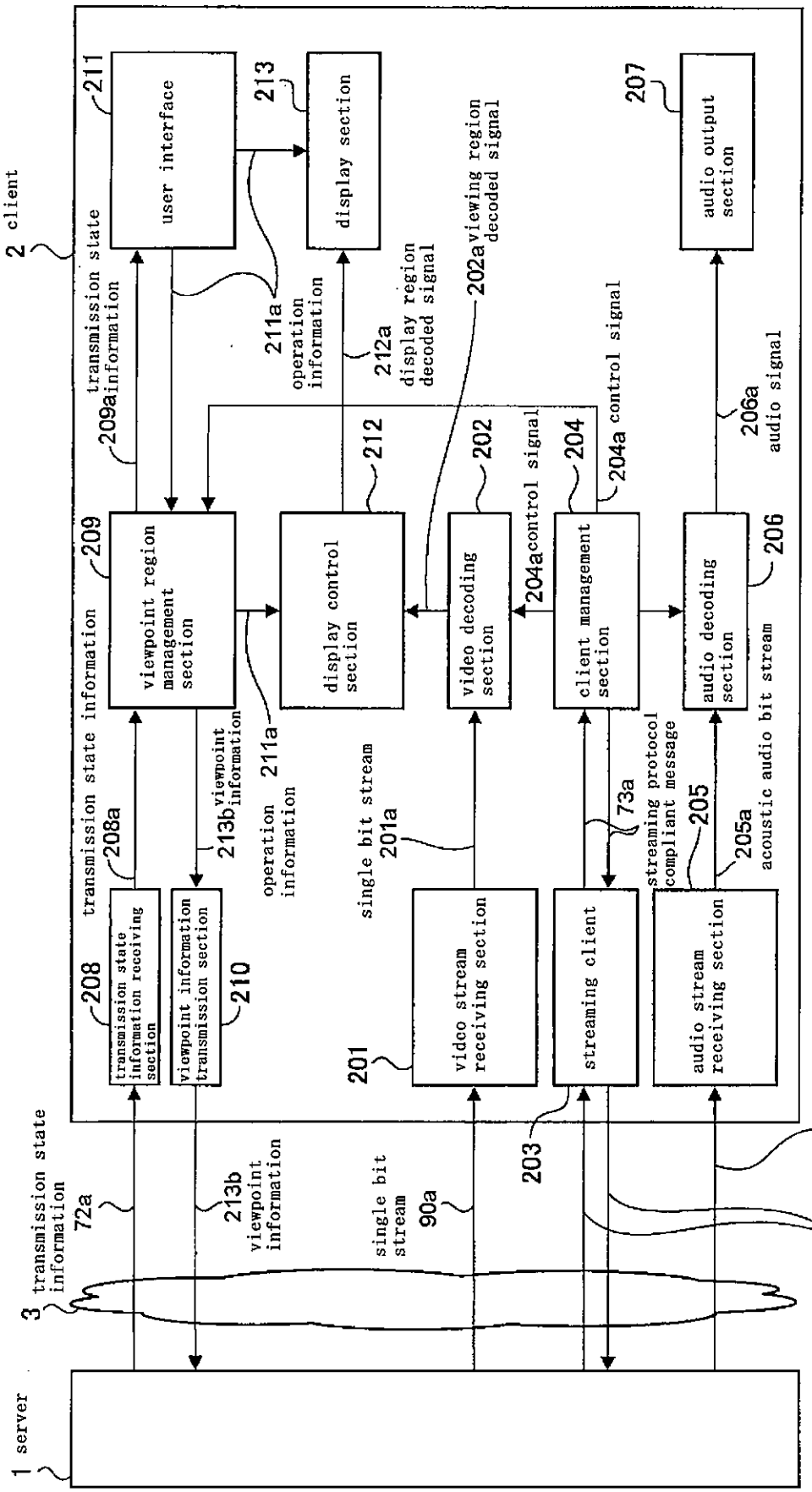
example of processing of
single stream construction section

Fig. 10



inside of single stream reconstruction processing control section

Fig. 11



internal structural example of client

Fig. 12

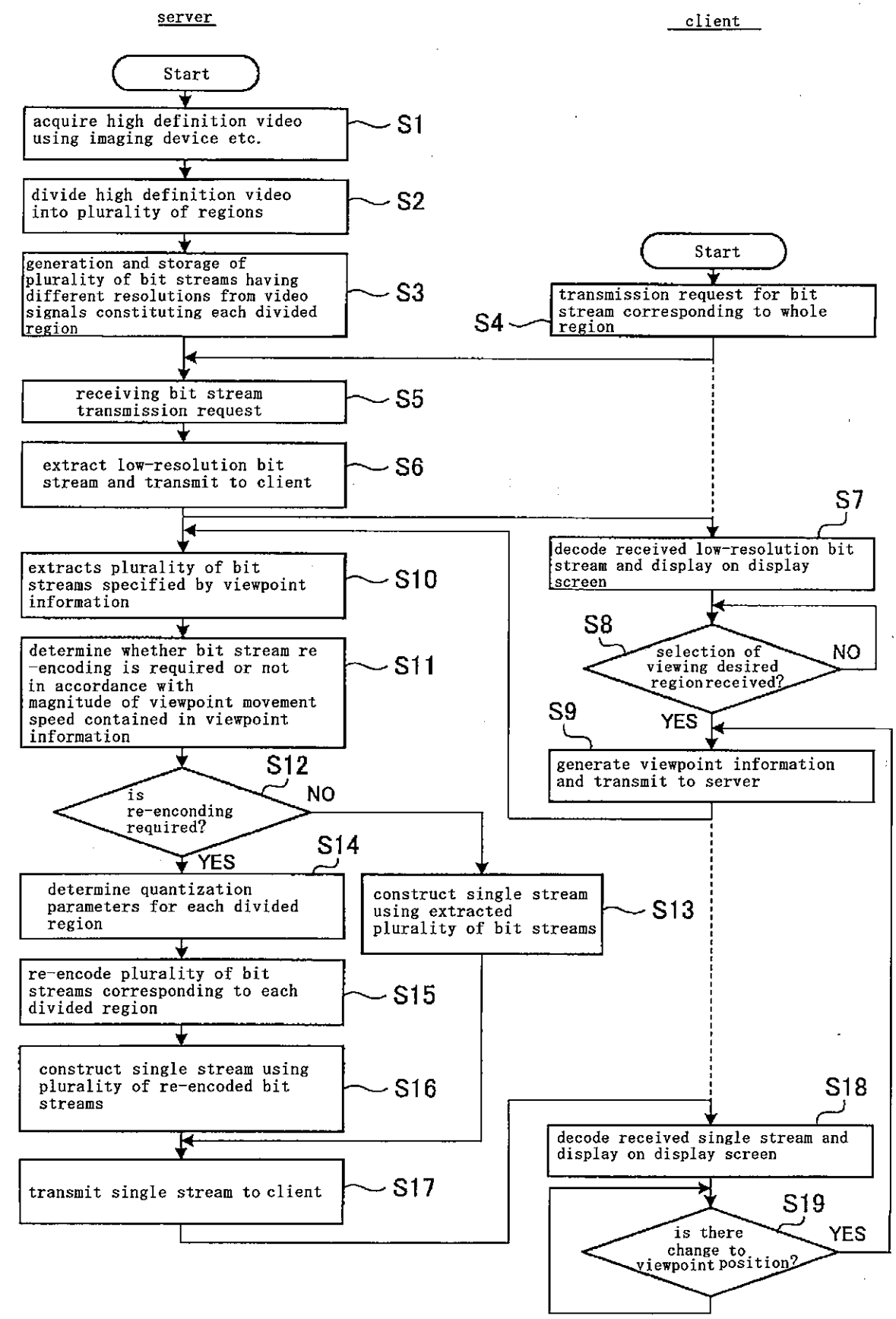
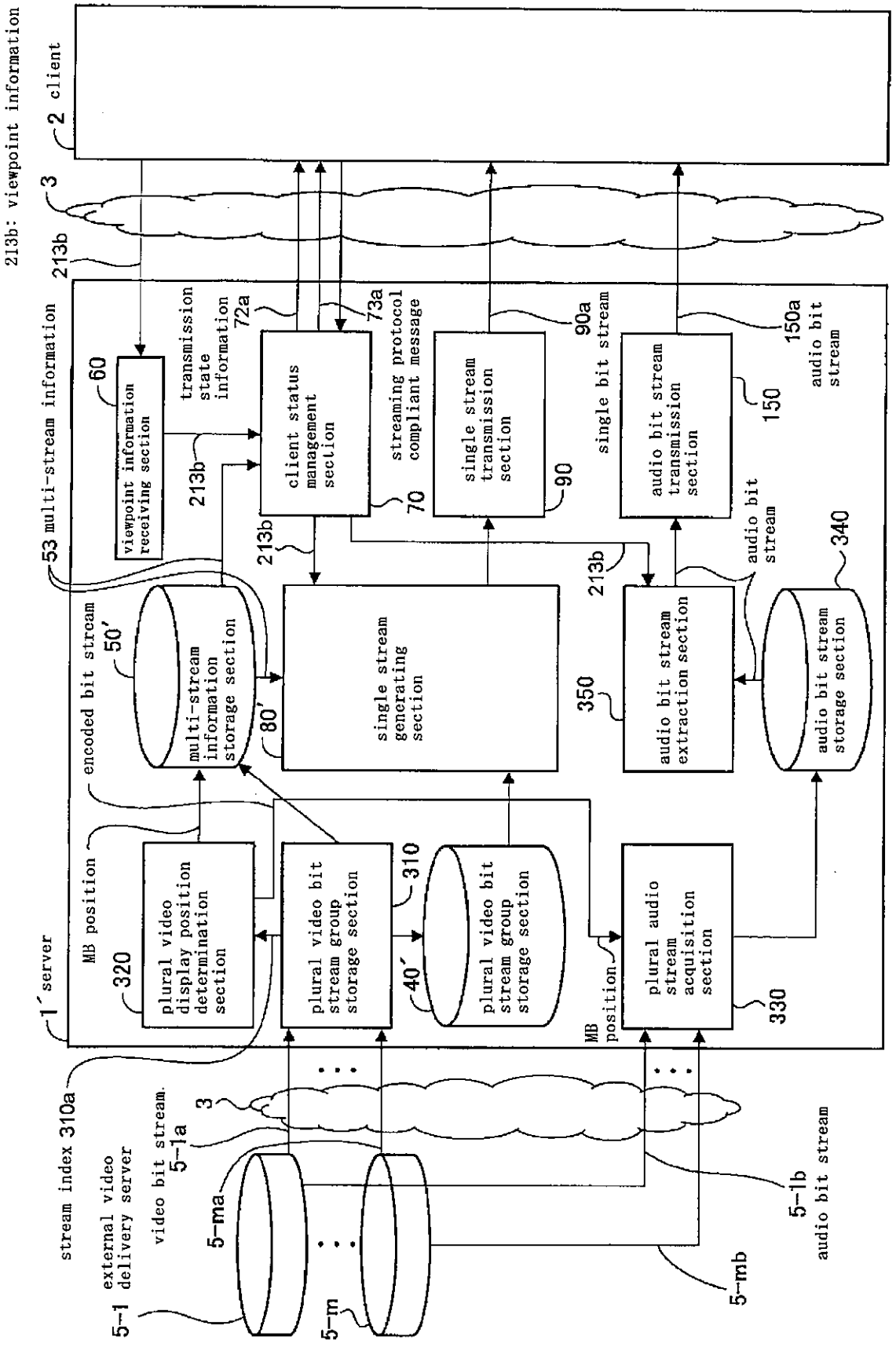

server
client
Start
acquire high definition video using imaging device etc.
S1
divide high definition video into plurality of regions
S2
generation and storage of plurality of bit streams having different resolutions from video signals constituting each divided region
S3
Start
transmission request for bit stream corresponding to whole region
S4
receiving bit stream transmission request
S5
extract low-resolution bit stream and transmit to client
S6
S7
decode received low-resolution bit stream and display on display screen
S8
selection of viewing desired region received?
NO
YES
S9
generate viewpoint information and transmit to server
extracts plurality of bit streams specified by viewpoint information
S10
determine whether bit stream re-encoding is required or not in accordance with magnitude of viewpoint movement speed contained in viewpoint information
S11
S12
is re-enconding required?
NO
YES
S14
determine quantization parameters for each divided region
construct single stream using extracted plurality of bit streams
S13
re-encode plurality of bit streams corresponding to each divided region
S15
construct single stream using plurality of re-encoded bit streams
S16
transmit single stream to client
S17
S18
decode received single stream and display on display screen
S19
is there change to viewpoint position?
YES

Fig. 13



structural example of a transmission region of second embodiment