

FIG. 1

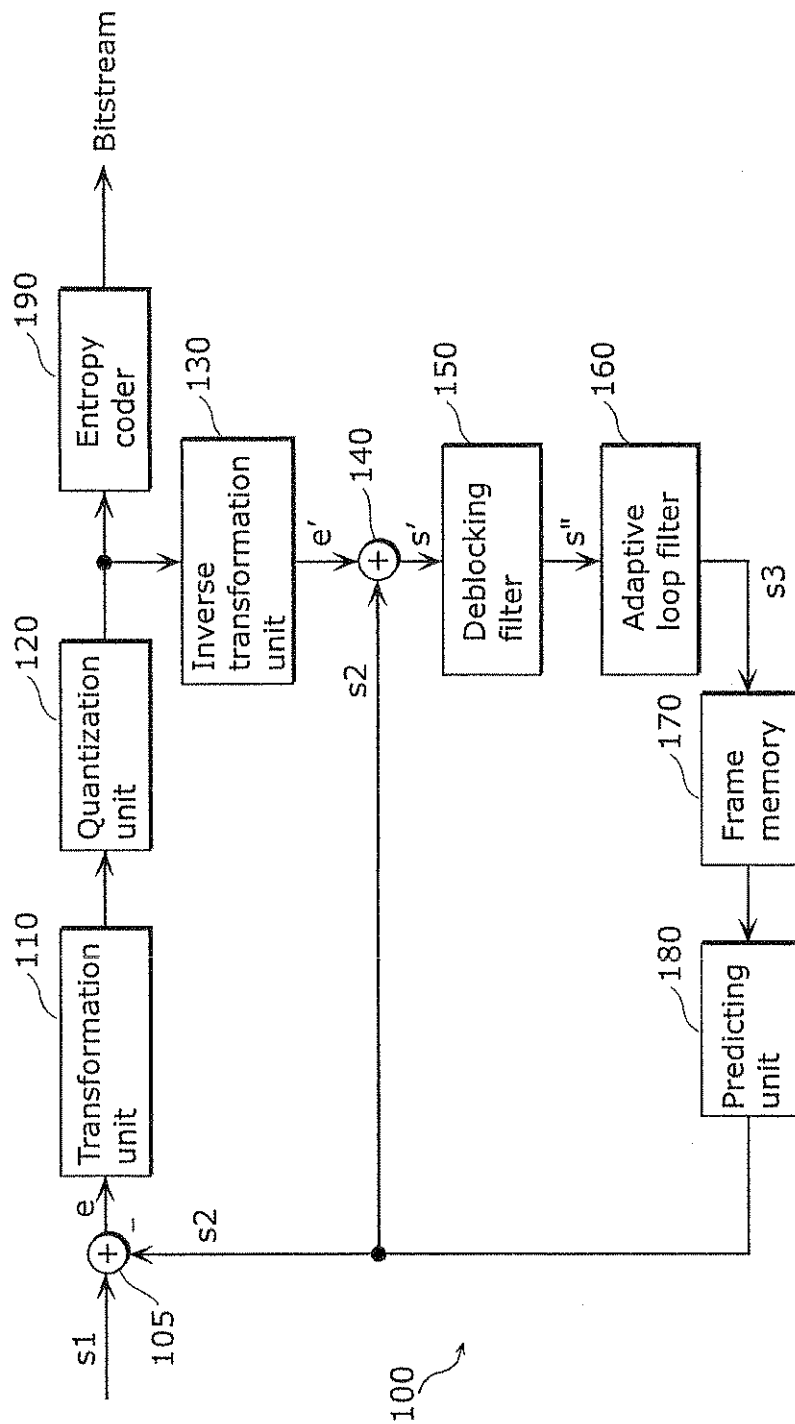


FIG. 2

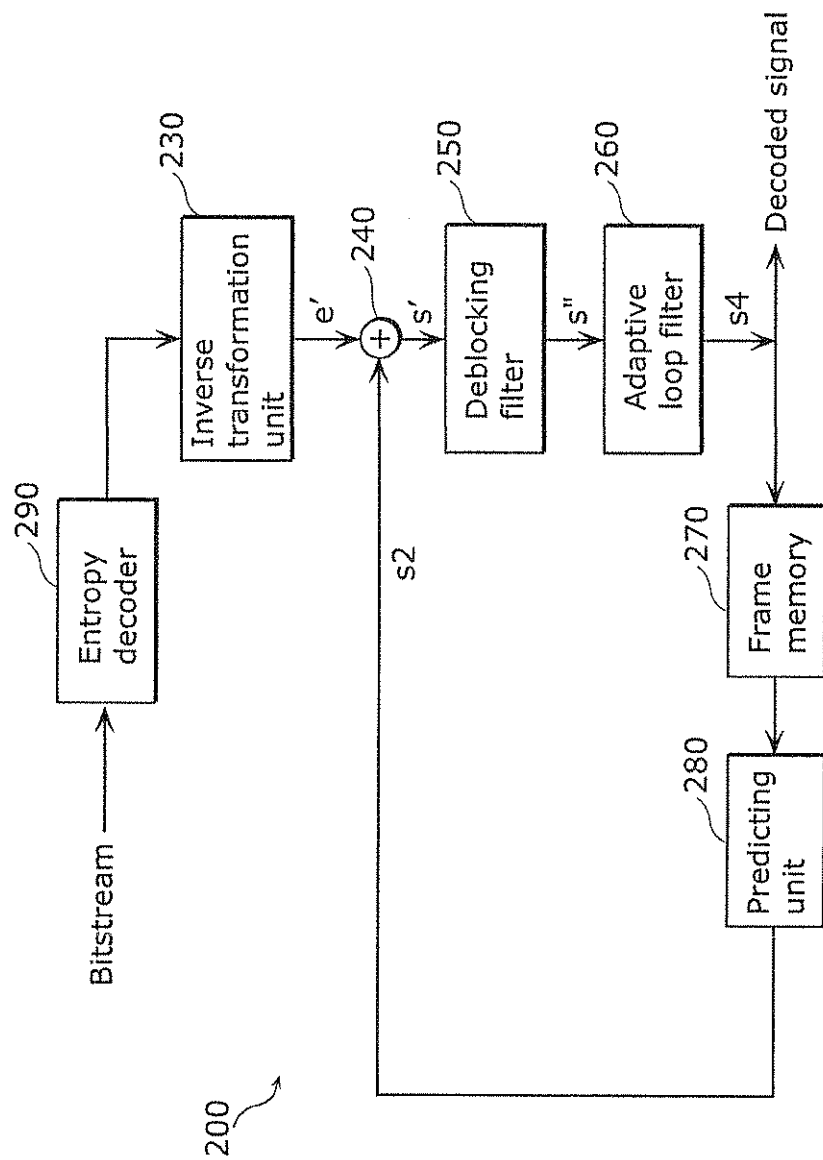


FIG. 3

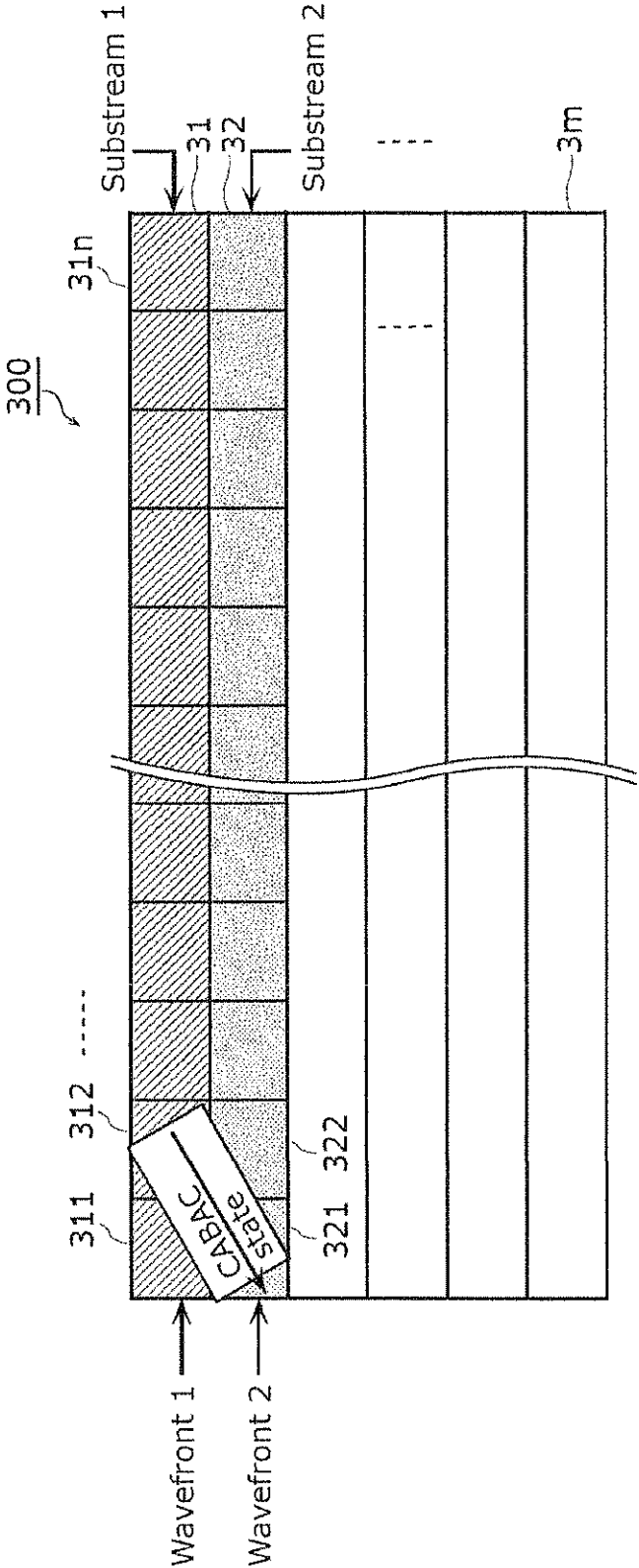


FIG. 4

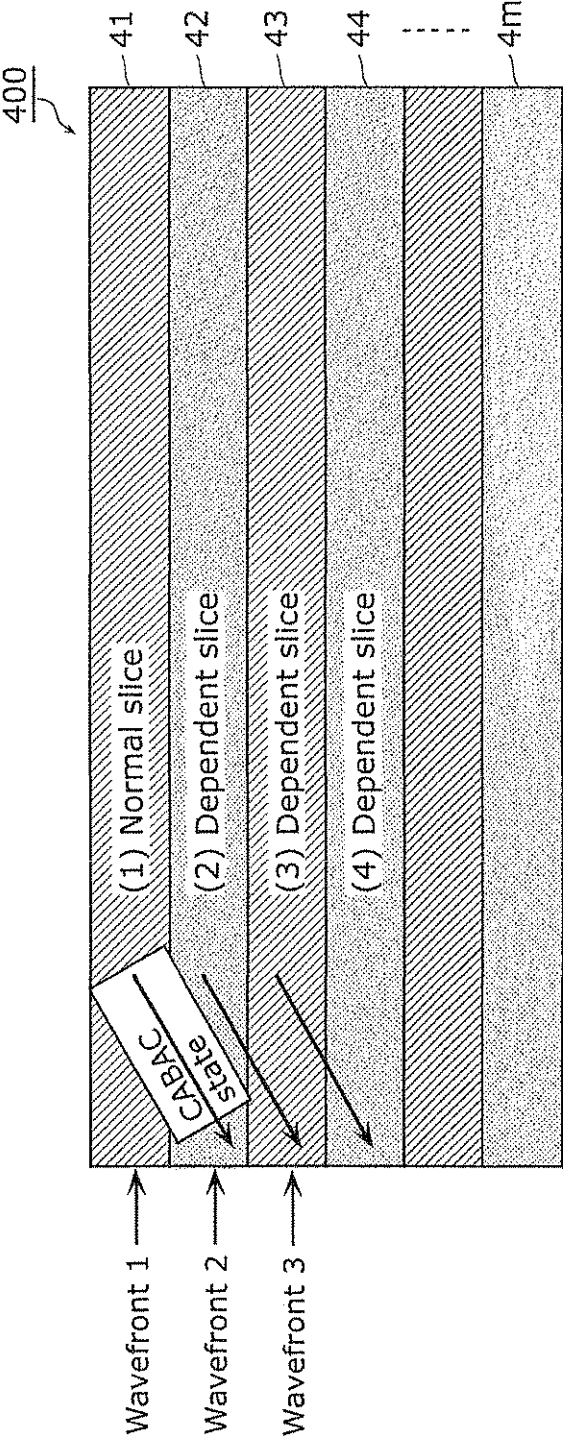


FIG. 5

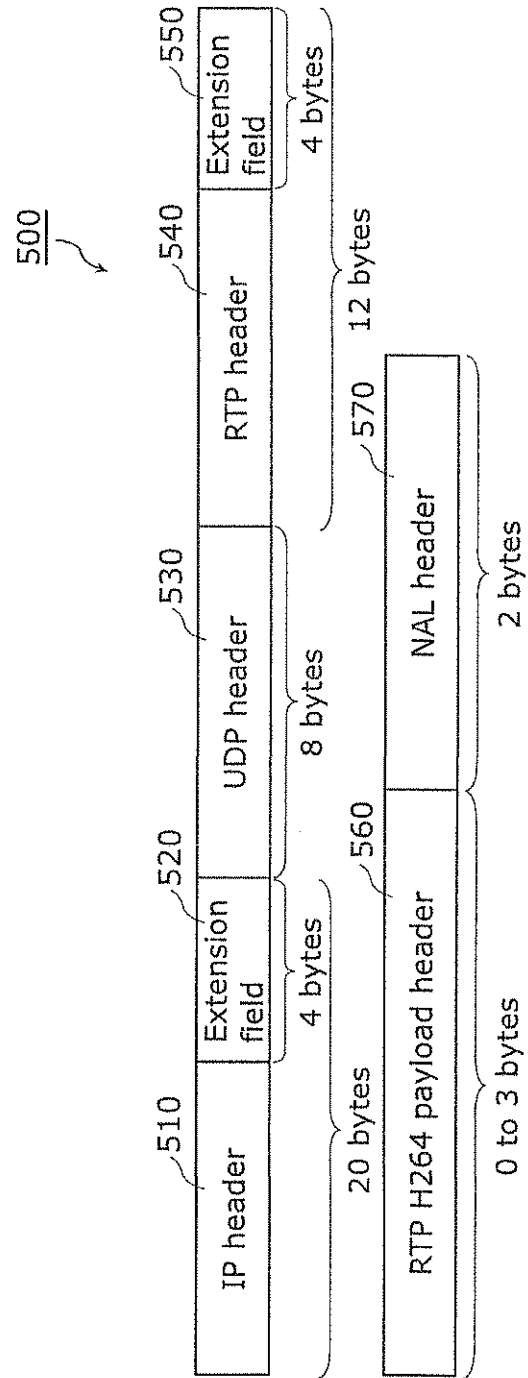


FIG. 6

600

|                                                                                       | Descriptor         |
|---------------------------------------------------------------------------------------|--------------------|
| <code>slice_header() {</code>                                                         |                    |
| <code>  first_slice_in_pic_flag</code>                                                | <code>u(1)</code>  |
| <code>  if( RapPicFlag )</code>                                                       |                    |
| <code>    no_output_of_prior_pics_flag</code>                                         | <code>u(1)</code>  |
| <code>  pic_parameter_set_id</code>                                                   | <code>ue(v)</code> |
| <code>  if( !first_slice_in_pic_flag )</code>                                         |                    |
| <code>    slice_address</code>                                                        | <code>u(v)</code>  |
| <code>  if( dependent_slice_enabled_flag &amp;&amp; !first_slice_in_pic_flag )</code> |                    |
| <code>    dependent_slice_flag</code>                                                 | <code>u(1)</code>  |
| <code>  if( dependent_slice_flag == 0 ) slice_header_info</code>                      |                    |
| <code>  if( tiles_or_entropy_coding_sync_idc == 1   </code>                           |                    |
| <code>      tiles_or_entropy_coding_sync_idc == 2 ) {</code>                          |                    |
| <code>    num_entry_point_offsets</code>                                              | <code>ue(v)</code> |
| <code>    if( num_entry_point_offsets &gt; 0 ) {</code>                               |                    |
| <code>      offset_len_minus1</code>                                                  | <code>ue(v)</code> |
| <code>      for( i = 0; i &lt; num_entry_point_offsets; i++ )</code>                  |                    |
| <code>        entry_point_offset[ i ]</code>                                          | <code>u(v)</code>  |
| <code>    }</code>                                                                    |                    |
| <code>  }</code>                                                                      |                    |

Dependent slice flag

601

Number of  
CABAC streams  
in slice

602

Number of bytes  
of substream  
(navigation is easier  
within bitstream)

603

FIG. 7

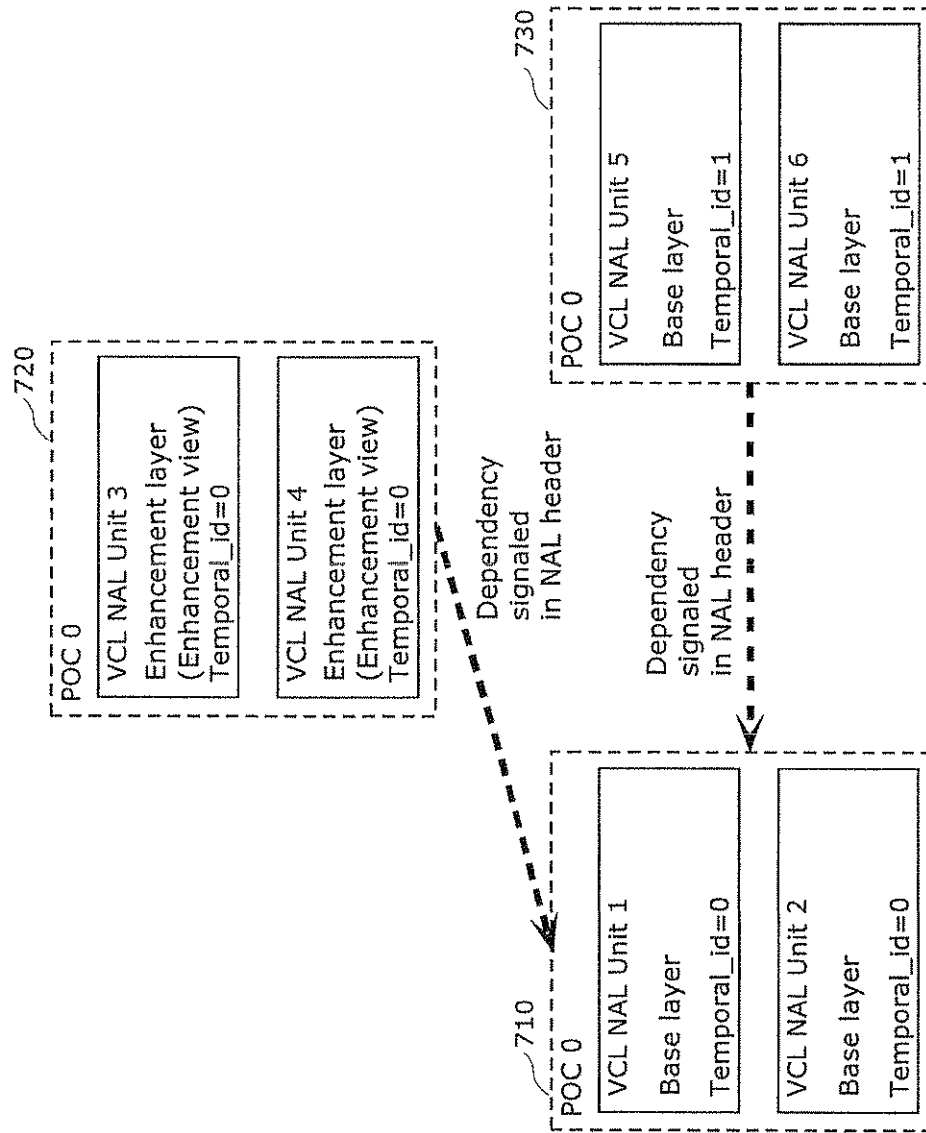


FIG. 8

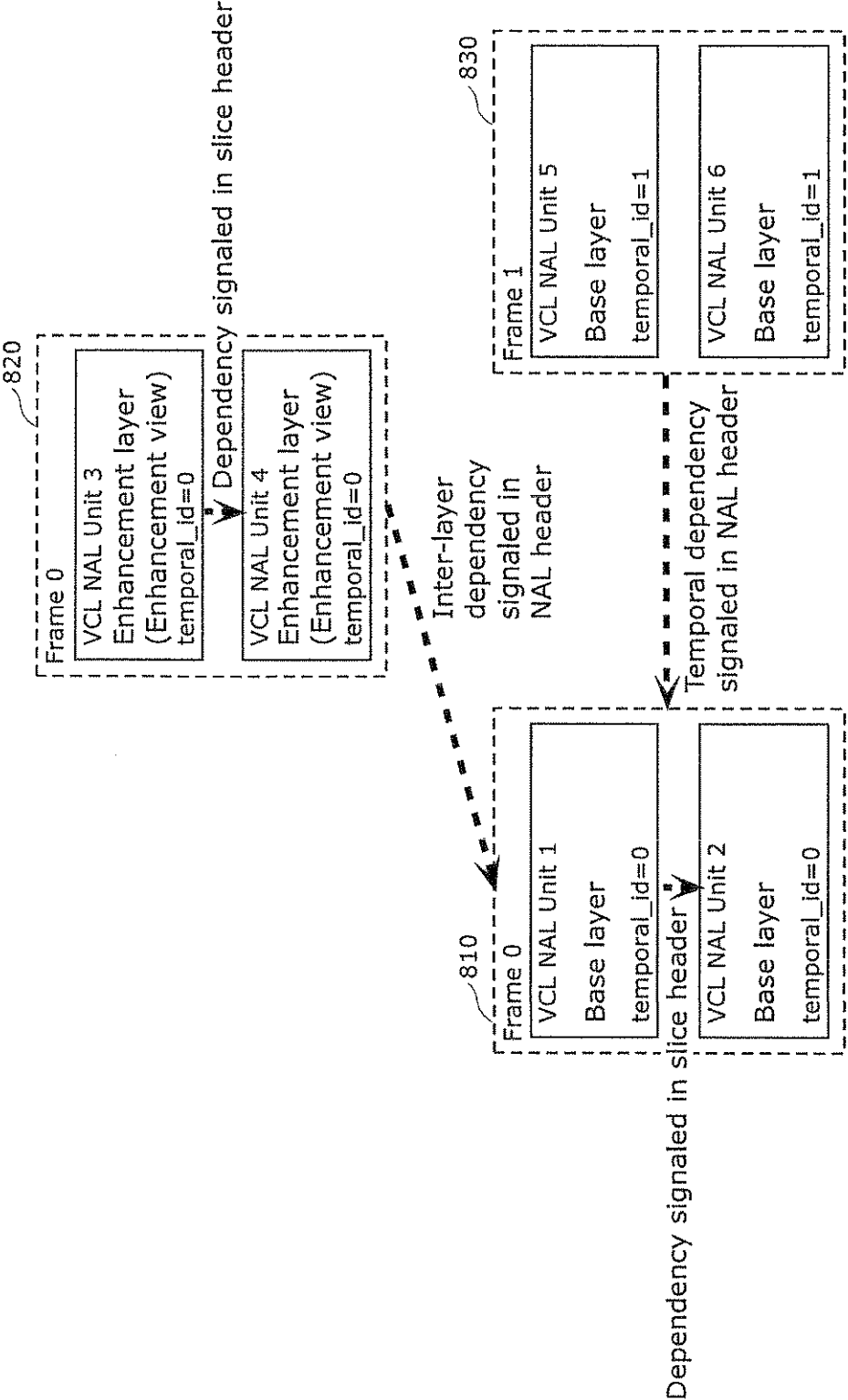


FIG. 9A

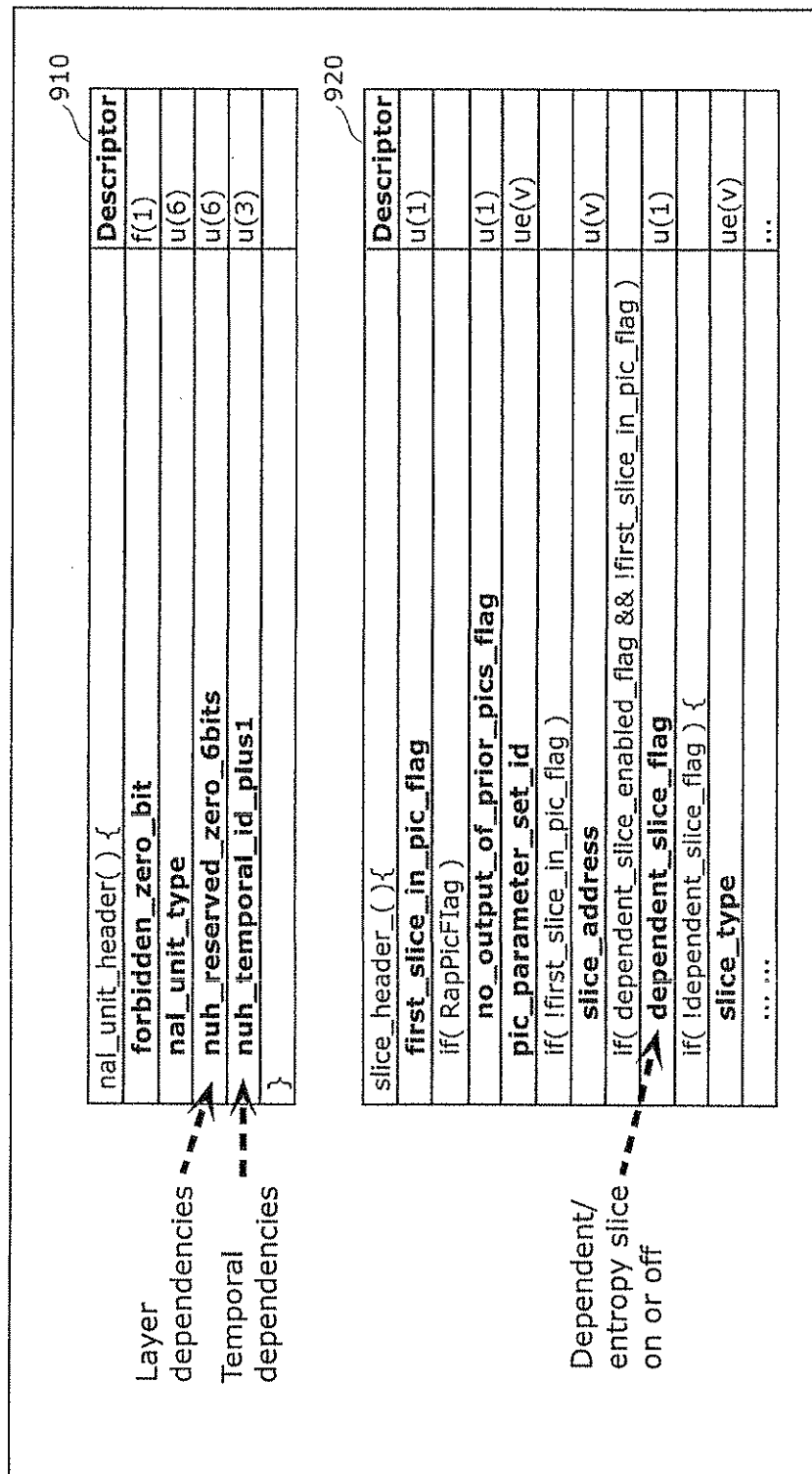


FIG. 9B

|                                                     |  |       |
|-----------------------------------------------------|--|-------|
| seq_parameter_set_rbsp() {                          |  |       |
| video_parameter_set_id                              |  | u(4)  |
| sps_max_sub_layers_minus1                           |  | u(3)  |
| sps_reserved_zero_bit                               |  | u(1)  |
| profile_and_level( 1, sps_max_sub_layers_minus1 )   |  |       |
| seq_parameter_set_id                                |  | ue(v) |
| chroma_format_idc                                   |  | ue(v) |
| if( chroma_format_idc == 3 )                        |  |       |
| separate_colour_plane_flag                          |  | u(1)  |
| pic_width_in_luma_samples ~931                      |  | ue(v) |
| pic_height_in_luma_samples ~932                     |  | ue(v) |
| pic_cropping_flag                                   |  | u(1)  |
| if( pic_cropping_flag ) {                           |  |       |
| pic_crop_left_offset                                |  | ue(v) |
| pic_crop_right_offset                               |  | ue(v) |
| pic_crop_top_offset                                 |  | ue(v) |
| pic_crop_bottom_offset                              |  | ue(v) |
| }                                                   |  |       |
| bit_depth_luma_minus8                               |  | ue(v) |
| bit_depth_chroma_minus8                             |  | ue(v) |
| pcm_enabled_flag                                    |  | u(1)  |
| if( pcm_enabled_flag ) {                            |  |       |
| pcm_sample_bit_depth_luma_minus1                    |  | u(4)  |
| pcm_sample_bit_depth_chroma_minus1                  |  | u(4)  |
| }                                                   |  |       |
| log2_max_pic_order_cnt_lsb_minus4                   |  | ue(v) |
| for( i = 0; i <= sps_max_sub_layers_minus1; i++ ) { |  |       |
| sps_max_dec_pic_buffering[ i ]                      |  | ue(v) |
| sps_max_num_reorder_pics[ i ]                       |  | ue(v) |
| sps_max_latency_increase[ i ]                       |  | ue(v) |
| }                                                   |  |       |
| restricted_ref_pic_lists_flag                       |  | u(1)  |
| if( restricted_ref_pic_lists_flag )                 |  |       |
| lists_modification_present_flag                     |  | u(1)  |
| log2_min_coding_block_size_minus3 ~933              |  | ue(v) |
| log2_diff_max_min_coding_block_size ~934            |  | ue(v) |
| ...                                                 |  |       |
| ...                                                 |  |       |
| ...                                                 |  |       |
| }                                                   |  |       |

920

|                                                                |
|----------------------------------------------------------------|
| slice_header ( ) {                                             |
| first_slice_in_pic_flag                                        |
| if( RapPicFlag )                                               |
| no_output_of_prior_pics_flag                                   |
| pic_parameter_set_id                                           |
| if( !first_slice_in_pic_flag )                                 |
| slice_address                                                  |
| if( dependent_slice_enabled_flag && !first_slice_in_pic_flag ) |
| dependent_slice_flag                                           |
| if( !dependent_slice_flag ) {                                  |
| slice_type                                                     |
| ... ..                                                         |

In order to parse slice\_address, syntax elements from SPS are needed. Therefore, SPS needs to be parsed up to this point.

FIG. 9C

920

|                                                                |
|----------------------------------------------------------------|
| slice_header_() {                                              |
| first_slice_in_pic_flag                                        |
| if( RapPicFlag )                                               |
| no_output_of_prior_pics_flag                                   |
| pic_parameter_set_id                                           |
| if( first_slice_in_pic_flag )                                  |
| slice_address                                                  |
| if( dependent_slice_enabled_flag && !first_slice_in_pic_flag ) |
| dependent_slice_flag                                           |
| if( !dependent_slice_flag ) {                                  |
| slice_type                                                     |
| ... ..                                                         |

In order to be able to access  
dependent\_slice\_enabled\_flag,  
PPS needs to be parsed up  
to this point.

940

|                                                |
|------------------------------------------------|
| pic_parameter_set_rbsp() {                     |
| pic_parameter_set_id                           |
| seq_parameter_set_id                           |
| sign_data_hiding_flag                          |
| cabac_init_present_flag                        |
| num_ref_idx_10_default_active_minus1           |
| num_ref_idx_11_default_active_minus1           |
| ic_init_qp_minus26                             |
| constrained_intra_pred_flag                    |
| transform_skip_enabled_flag                    |
| cu_qp_delta_enabled_flag                       |
| if( cu_qp_delta_enabled_flag )                 |
| dlff_en_qp_delta_depth                         |
| pic_cb_qp_offset                               |
| pic_cr_qp_offset                               |
| pic_slice_level_chroma_qp_offsets_present_flag |
| weighted_pred_flag u(1)                        |
| weighted_bipred_flag                           |
| output_flag_present_flag                       |
| transquant_bypass_enable_flag                  |
| dependent_slice_enabled_flag                   |
| ...                                            |
| ...                                            |
| ...                                            |
| }                                              |

945

FIG. 10

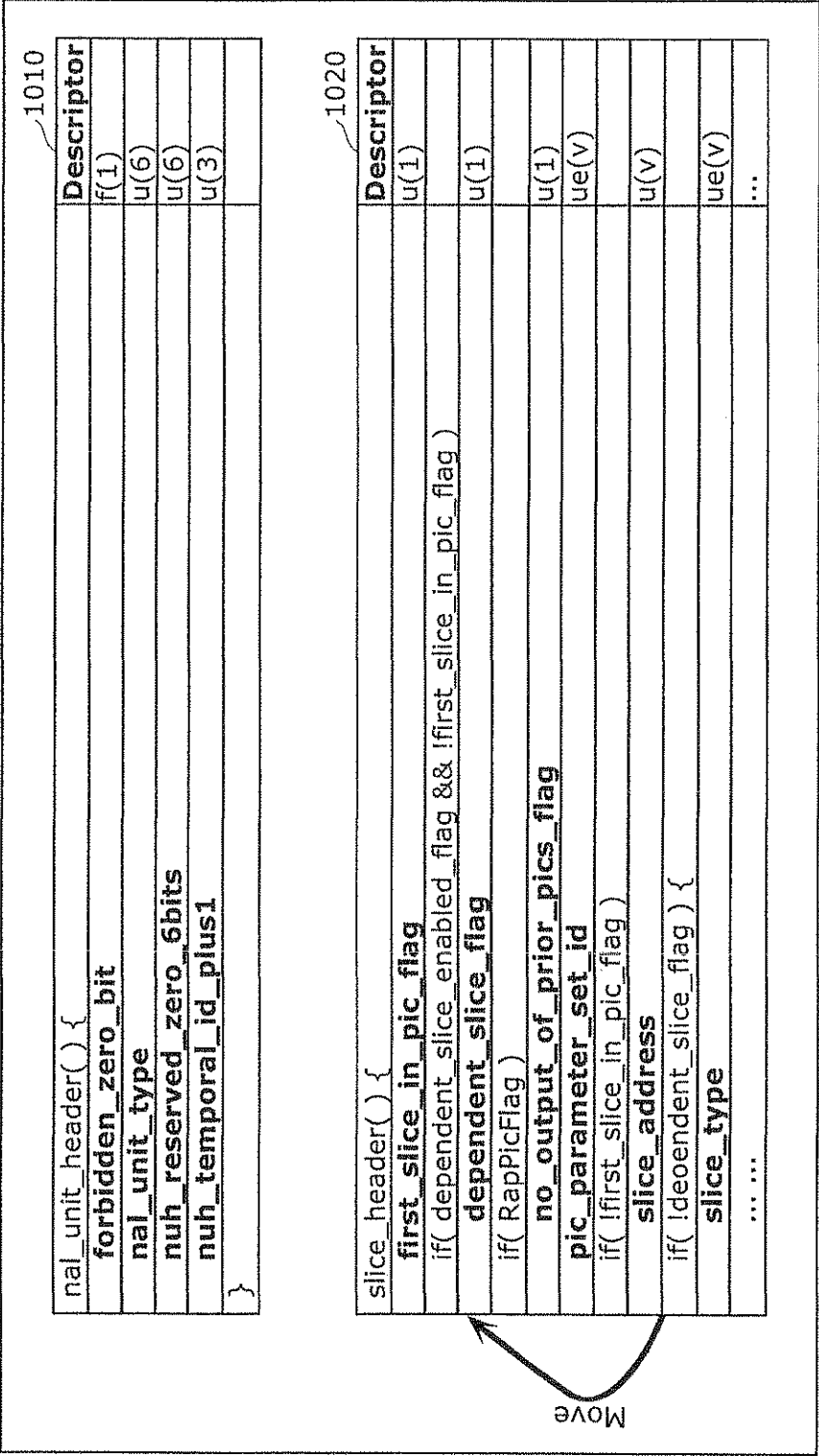


FIG. 11

|                                                                           |            |
|---------------------------------------------------------------------------|------------|
| slice_header() {                                                          | Descriptor |
| <b>first_slice_in_pic_flag</b>                                            | u(1)       |
| if( <del>dependent_slice_enabled_flag</del> && !first_slice_in_pic_flag ) |            |
| <b>dependent_slice_flag</b>                                               | u(1)       |
| if( RapPicFlag )                                                          |            |
| <b>no_output_of_prior_pics_flag</b>                                       | u(1)       |
| <b>pic_parameter_set_id</b>                                               | ue(v)      |
| if( !first_slice_in_pic_flag )                                            |            |
| <b>slice_address</b>                                                      | u(v)       |
| if( !dependent_slice_flag ) {                                             |            |
| <b>slice_type</b>                                                         | ue(v)      |
| ... ..                                                                    | ...        |

1110

FIG. 12

|                                |            |      |
|--------------------------------|------------|------|
| nal_unit_header() {            |            | 1210 |
| forbidden_zero_bit             | Descriptor |      |
| nal_unit_type                  | f(1)       |      |
| nuh_reserved_zero_6bits        | u(6)       |      |
| nuh_temporal_id_plus1          | u(6)       |      |
| }                              | u(3)       |      |
| slice_header() {               |            | 1220 |
| dependent_slice_flag           | Descriptor |      |
| if( !dependent_slice_flag)     | u(1)       |      |
| first_slice_in_pic_flag        | u(1)       |      |
| if( RapPicFlag )               |            |      |
| no_output_of_prior_pics_flag   | u(1)       |      |
| pic_parameter_set_id           | ue(v)      |      |
| if( !first_slice_in_pic_flag ) |            |      |
| slice_address                  | u(v)       |      |
| if( !dependent_slice_flag ) {  |            |      |
| slice_type                     | ue(v)      |      |
| ... ..                         | ...        |      |

FIG. 13

1310

|                                                                |                   |
|----------------------------------------------------------------|-------------------|
| slice_header ( ) {                                             | <b>Descriptor</b> |
| first_slice_in_pic_flag                                        | u(1)              |
| if( RapPicFlag )                                               |                   |
| no_output_of_prior_pics_flag                                   | u(1)              |
| pic_parameter_set_id                                           | ue(v)             |
| if( dependent_slice_enabled_flag && !first_slice_in_pic_flag ) |                   |
| dependent_slice_flag                                           | u(1)              |
| if( !first_slice_in_pic_flag )                                 |                   |
| slice_address                                                  | u(v)              |
| if( !dependent_slice_flag ) {                                  |                   |
| slice_type                                                     | ue(v)             |
| ... ..                                                         | ...               |

FIG. 14

|                         |      |            |
|-------------------------|------|------------|
| nal_unit_header() {     |      | 1410       |
| forbidden_zero_bit      | f(1) | Descriptor |
| nal_unit_type           | u(6) |            |
| nuh_reserved_zero_6bits | u(5) |            |
| nuh_temporal_id_plus1   | u(3) |            |
| dependent_slice_flag    | u(1) |            |
| }                       |      |            |

FIG. 15

|                                                  |            |       |
|--------------------------------------------------|------------|-------|
| nal_unit_header() {                              |            | 1510  |
| forbidden_zero_bit                               | Descriptor | f(1)  |
| nal_unit_type                                    |            | u(6)  |
| nuh_reserved_zero_6bits                          |            | u(6)  |
| nuh_temporal_id_plus1                            |            | u(3)  |
| }                                                |            |       |
| slice_header() {                                 |            | 1520  |
| first_slice_in_pic_flag                          | Descriptor | u(1)  |
| if( RapPicFlag )                                 |            |       |
| no_output_of_prior_pics_flag                     |            | u(1)  |
| pic_parameter_set_id                             |            | ue(v) |
| if( !first_slice_in_pic_flag )                   |            |       |
| slice_address                                    |            | u(v)  |
| if( nal_unit_type == 15    nal_unit_type == 16 ) |            |       |
| dependent_slice_flag == 1                        |            |       |
| if( !dependent_slice_flag ) {                    |            |       |
| slice_type                                       |            | ue(v) |
| ... ..                                           |            | ...   |

FIG. 16

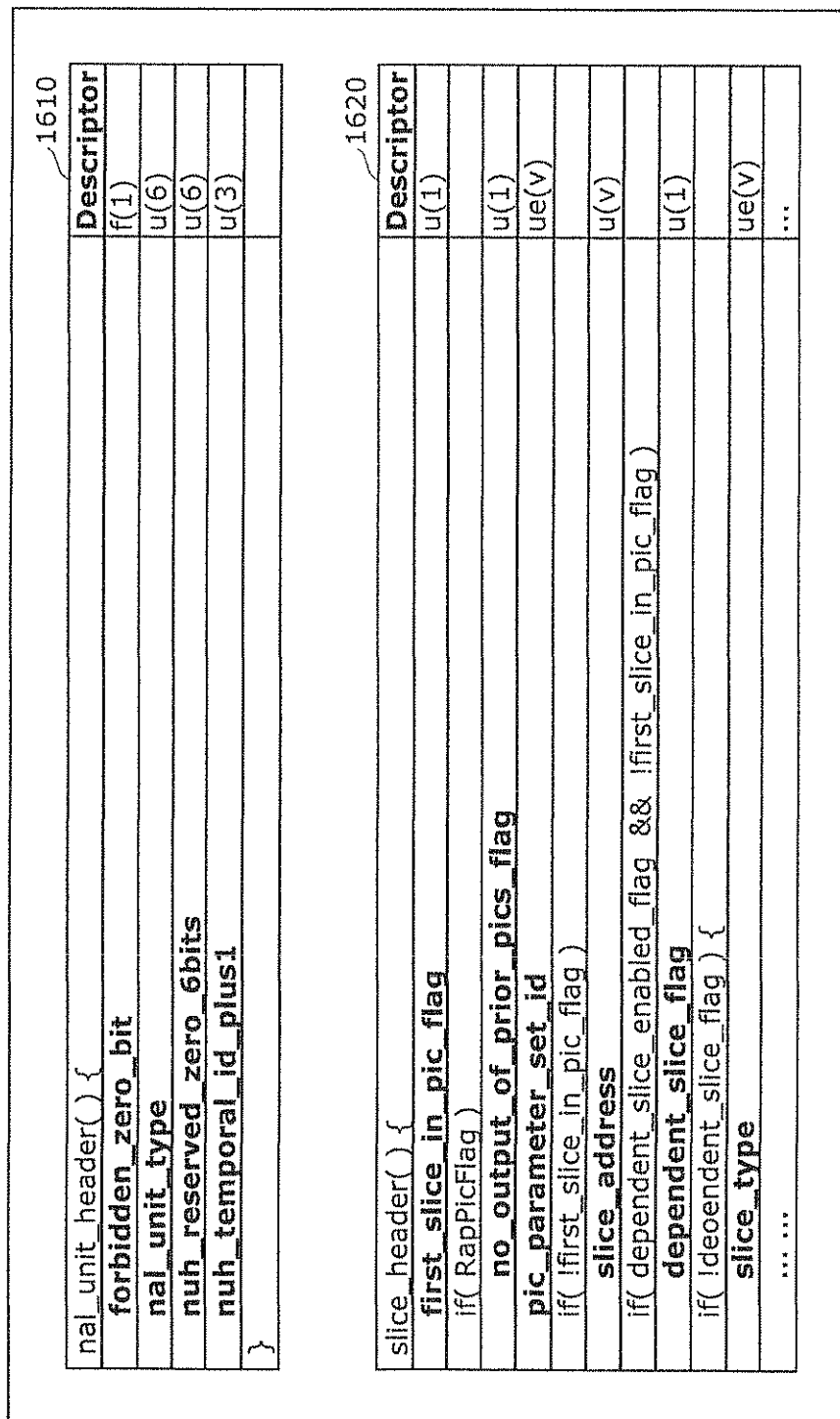


FIG. 17

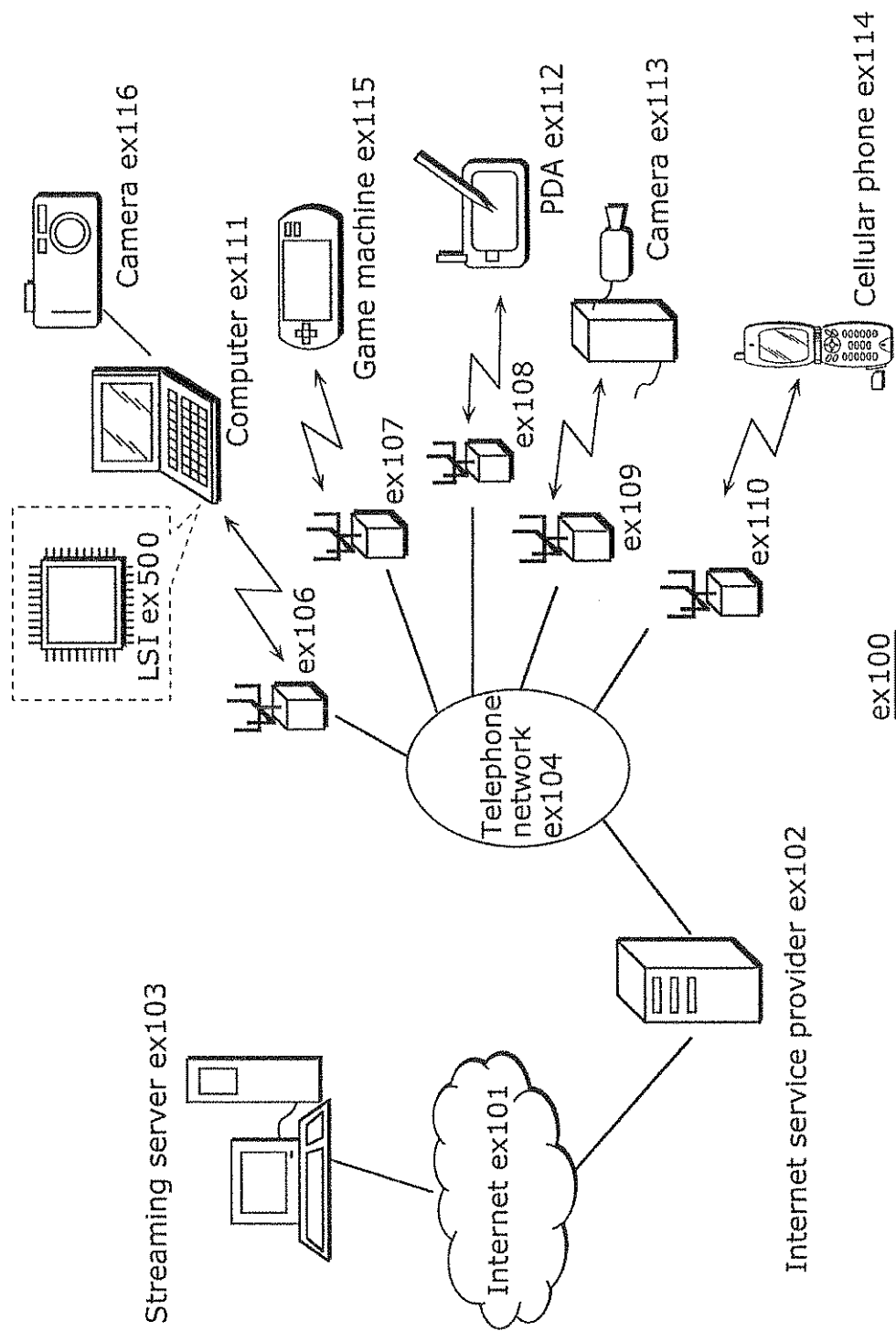


FIG. 18

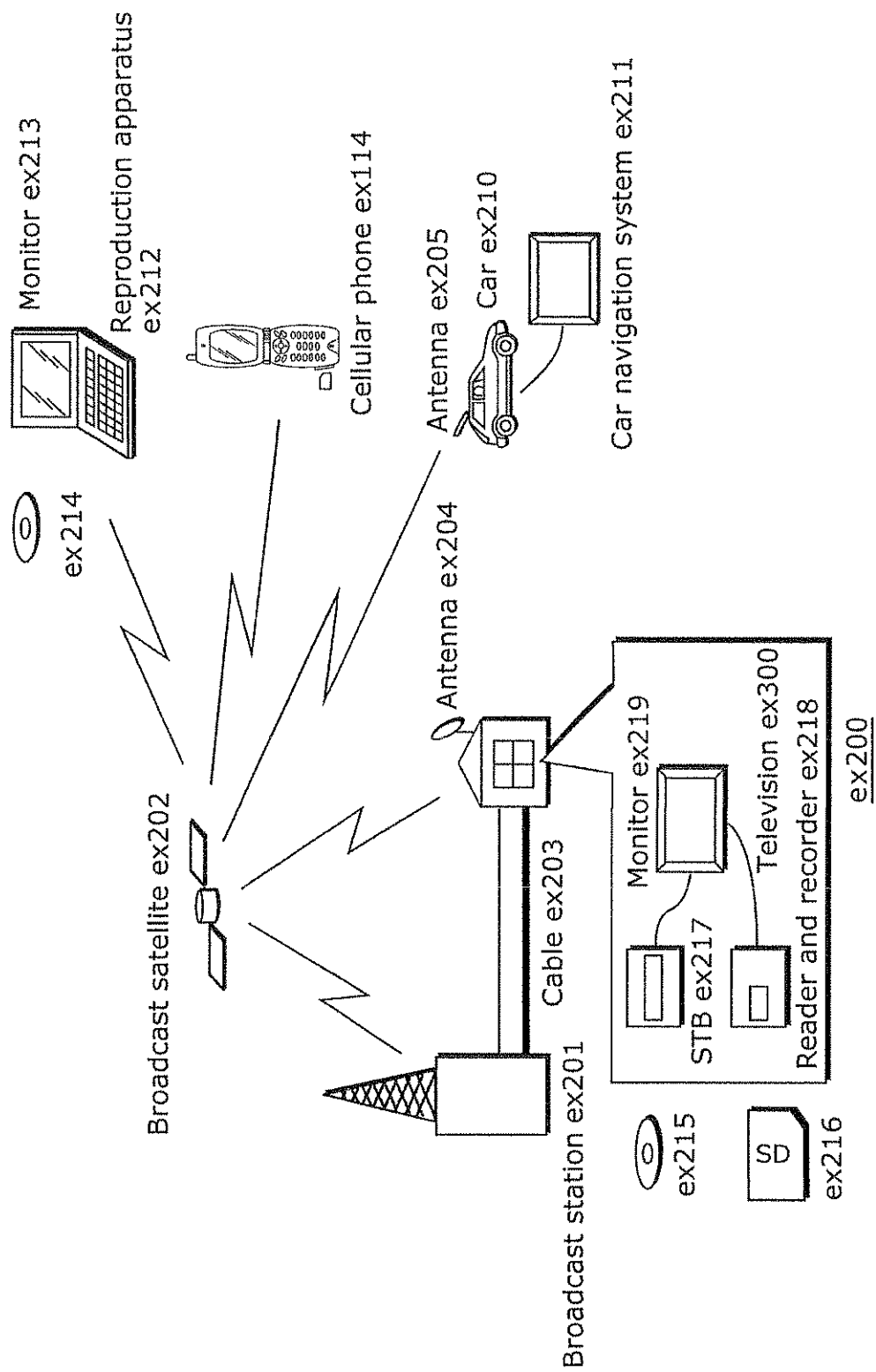


FIG. 19

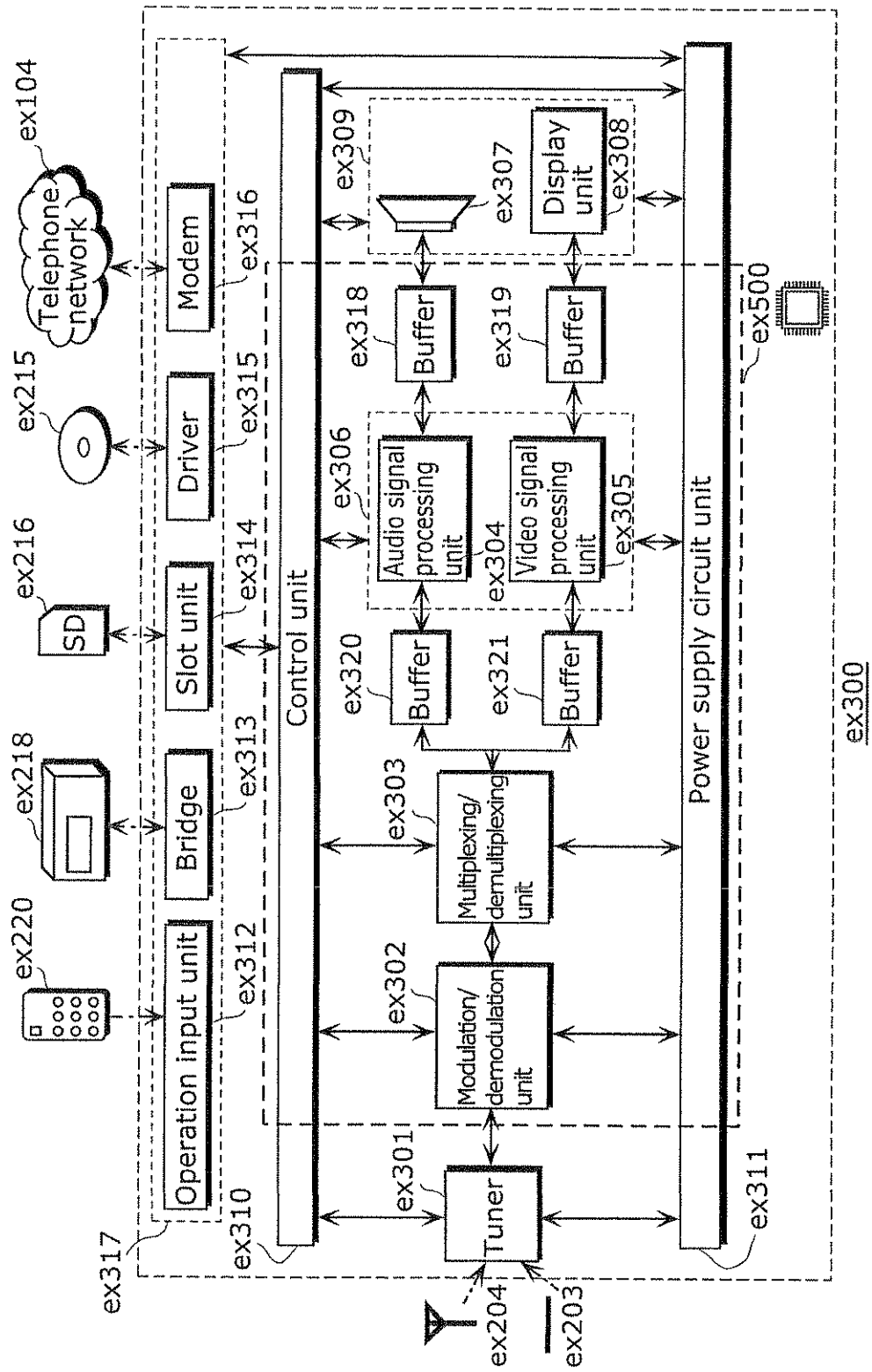
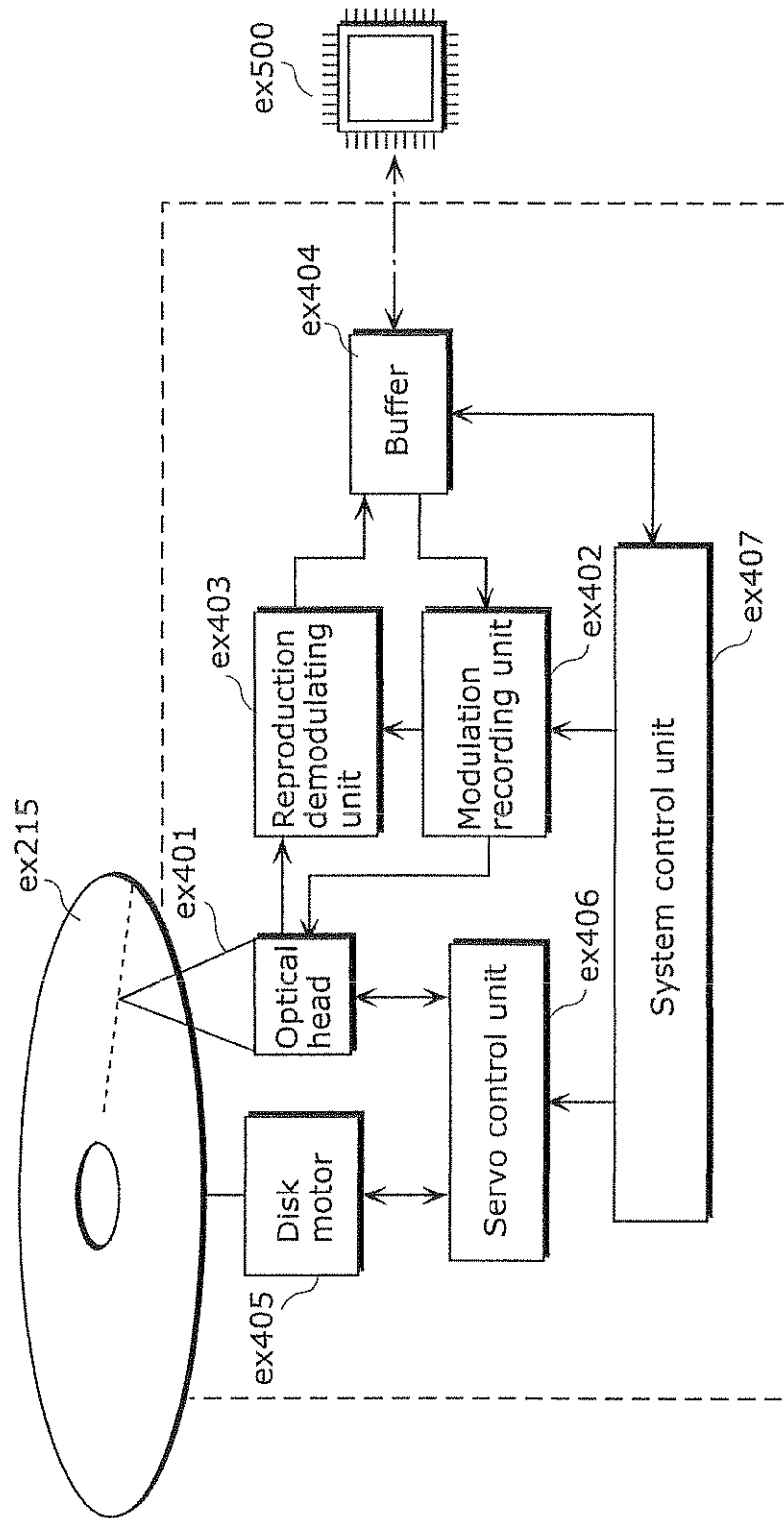


FIG. 20



ex400

FIG. 21

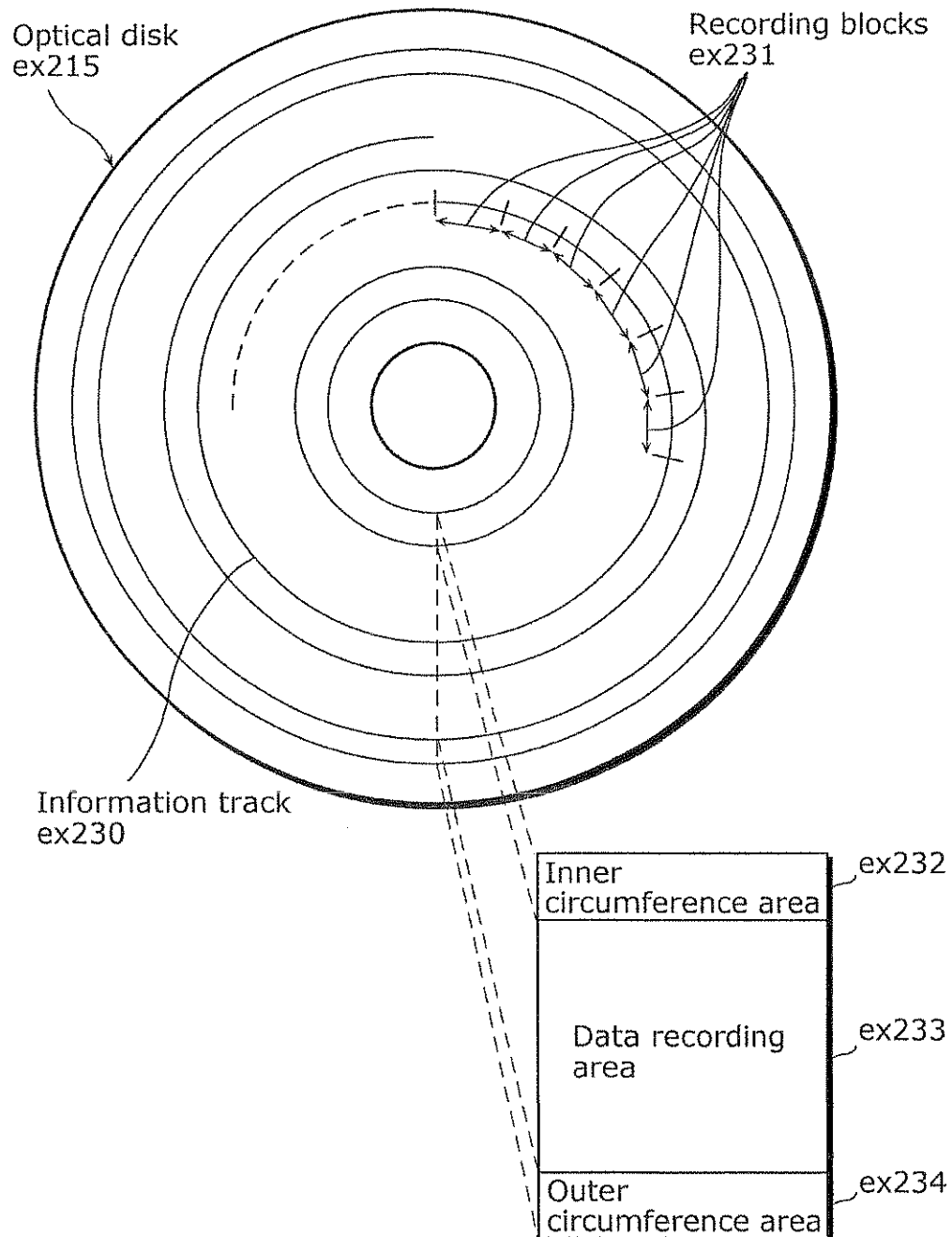


FIG. 22A

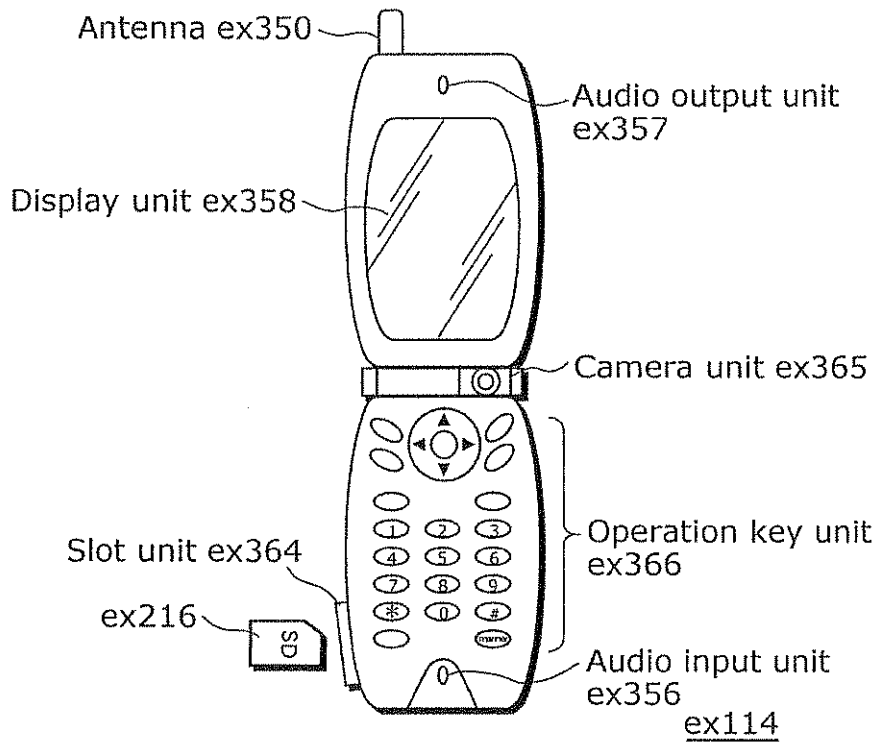


FIG. 22B

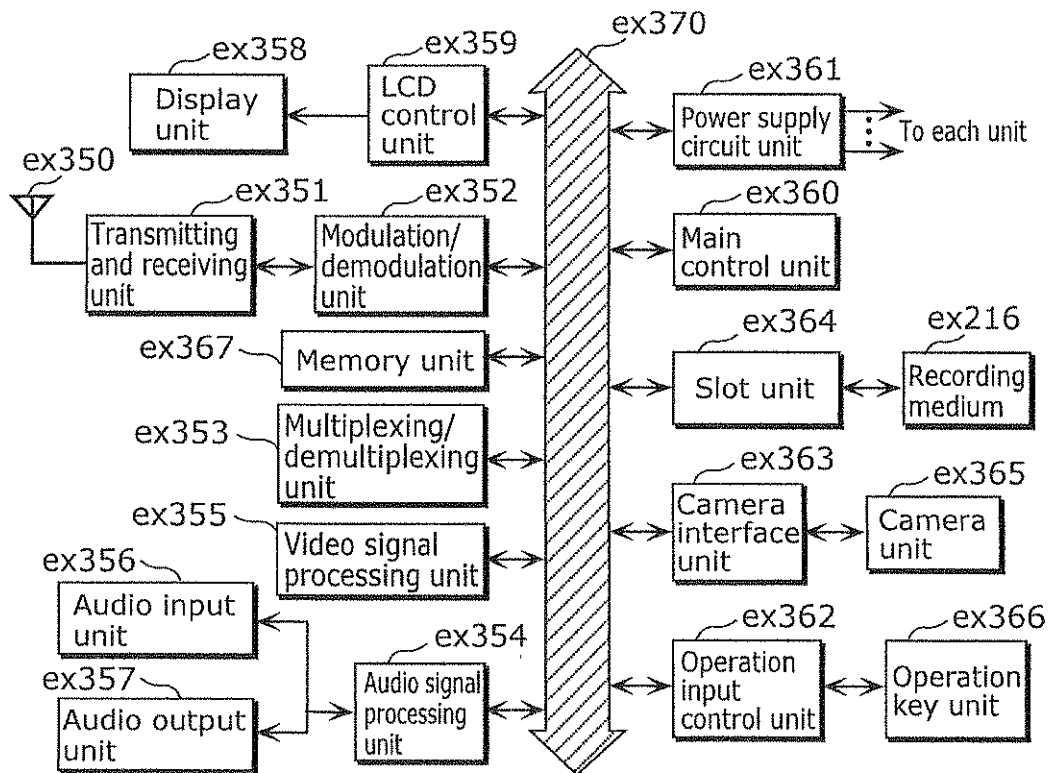


FIG. 23

|                                            |
|--------------------------------------------|
| 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. 24

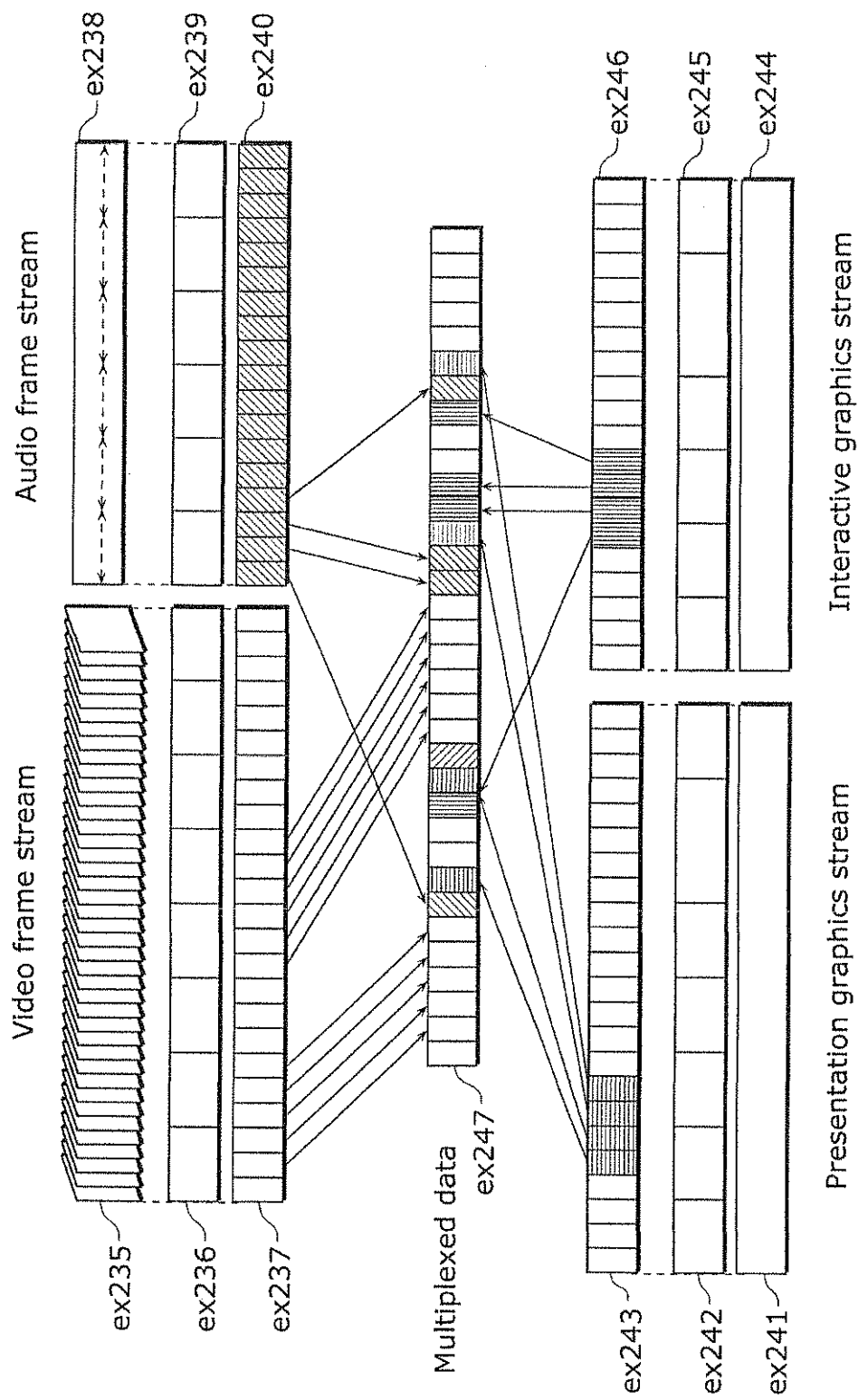


FIG. 25

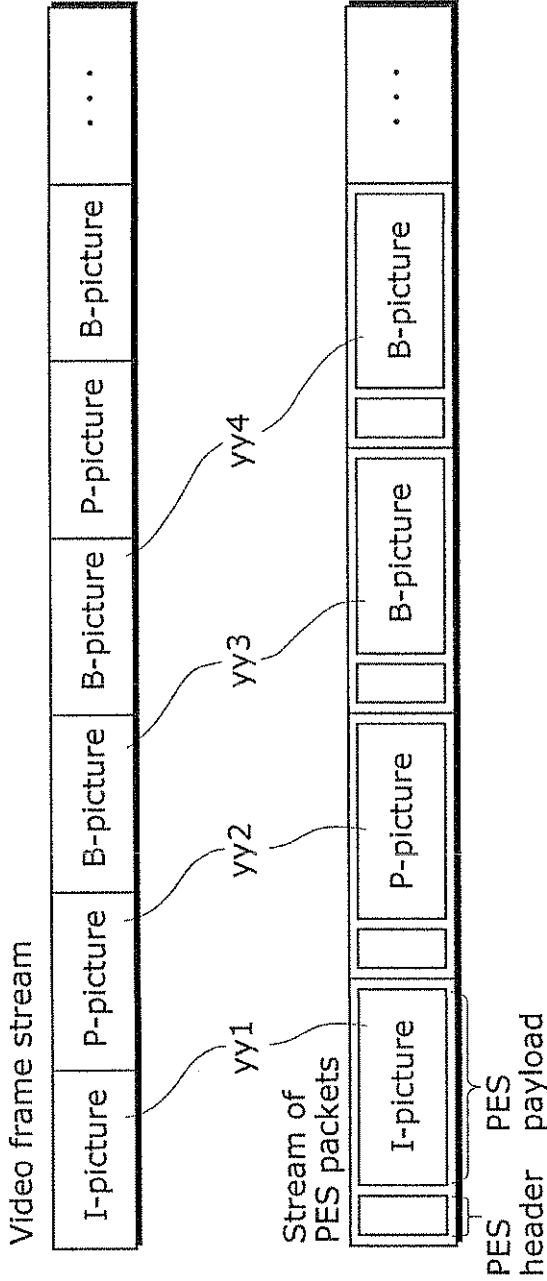


FIG. 26

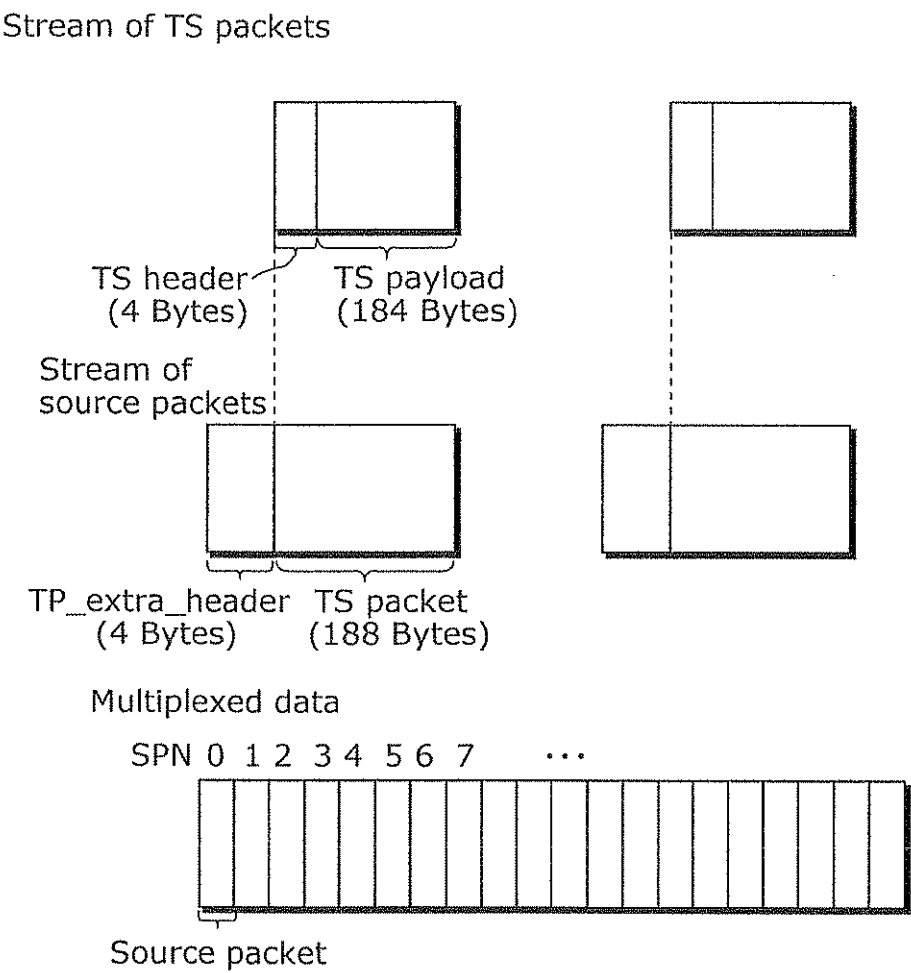


FIG. 27

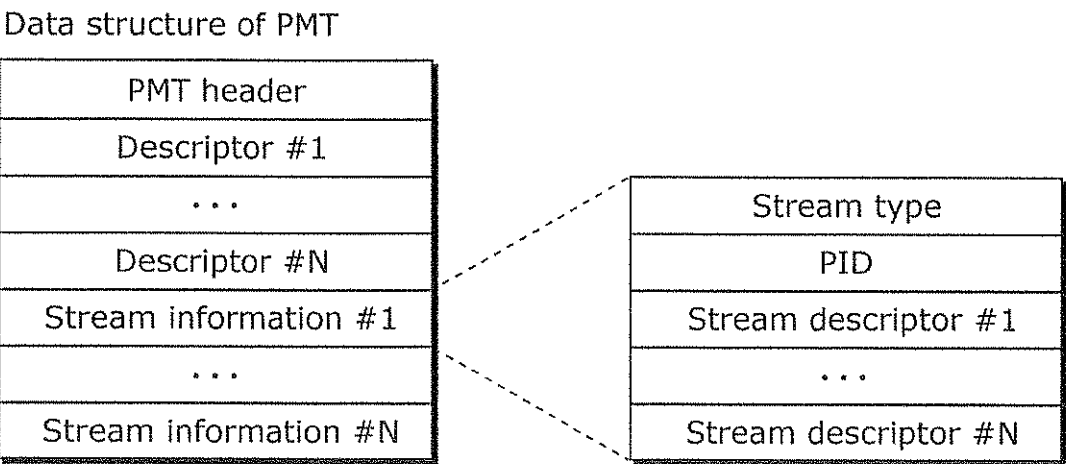


FIG. 28

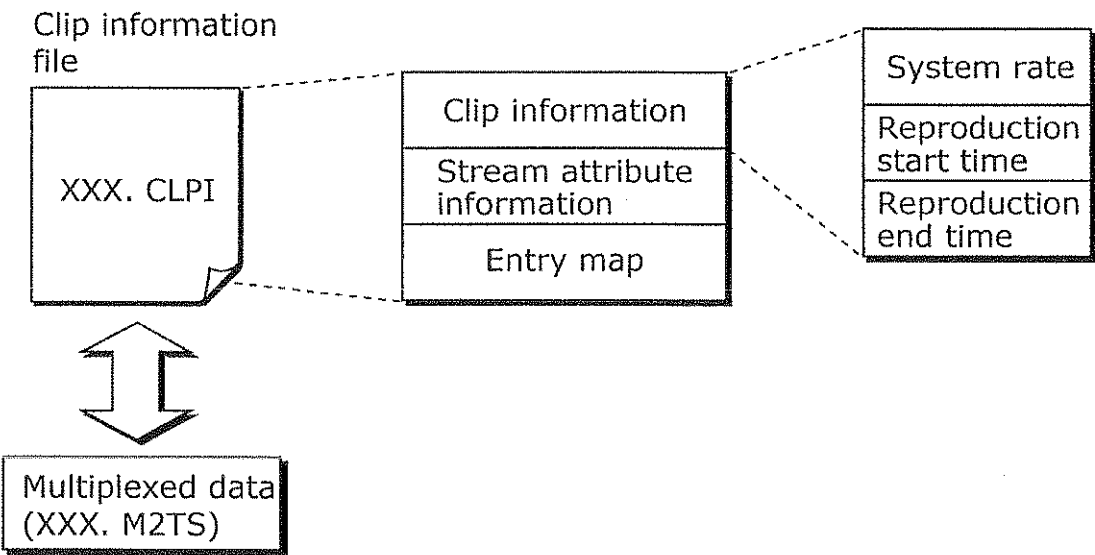


FIG. 29

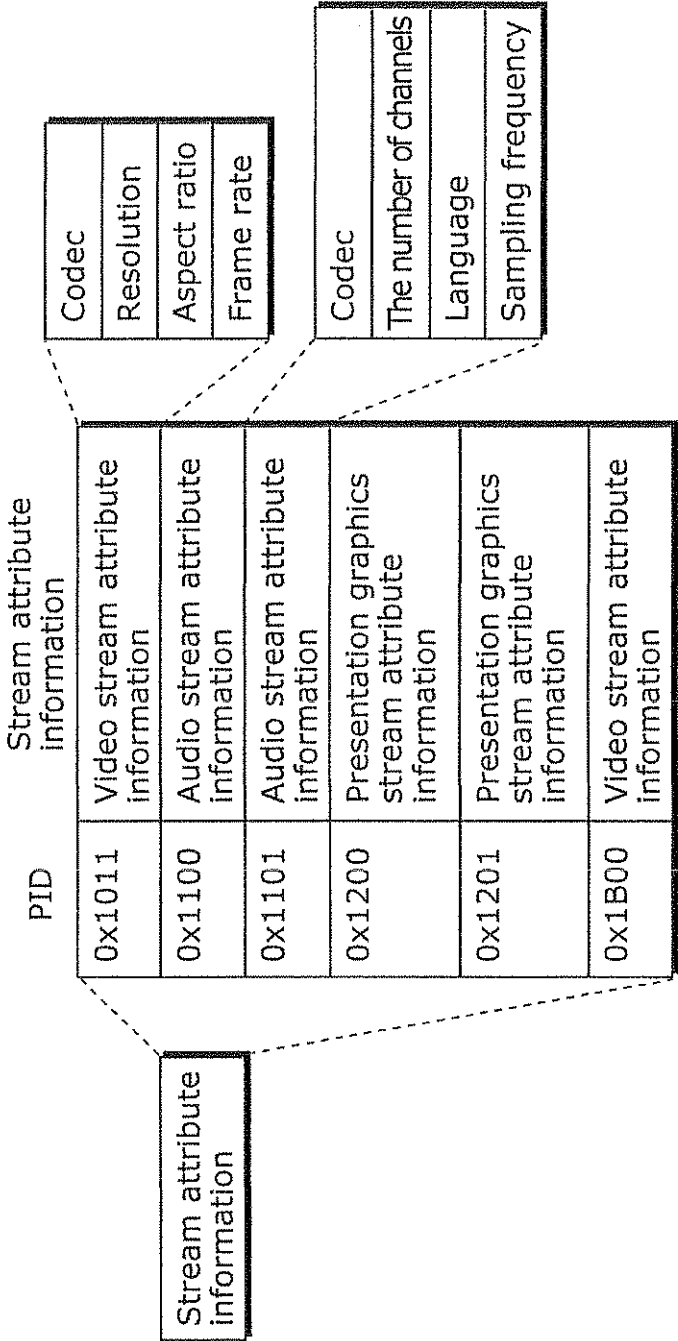


FIG. 30

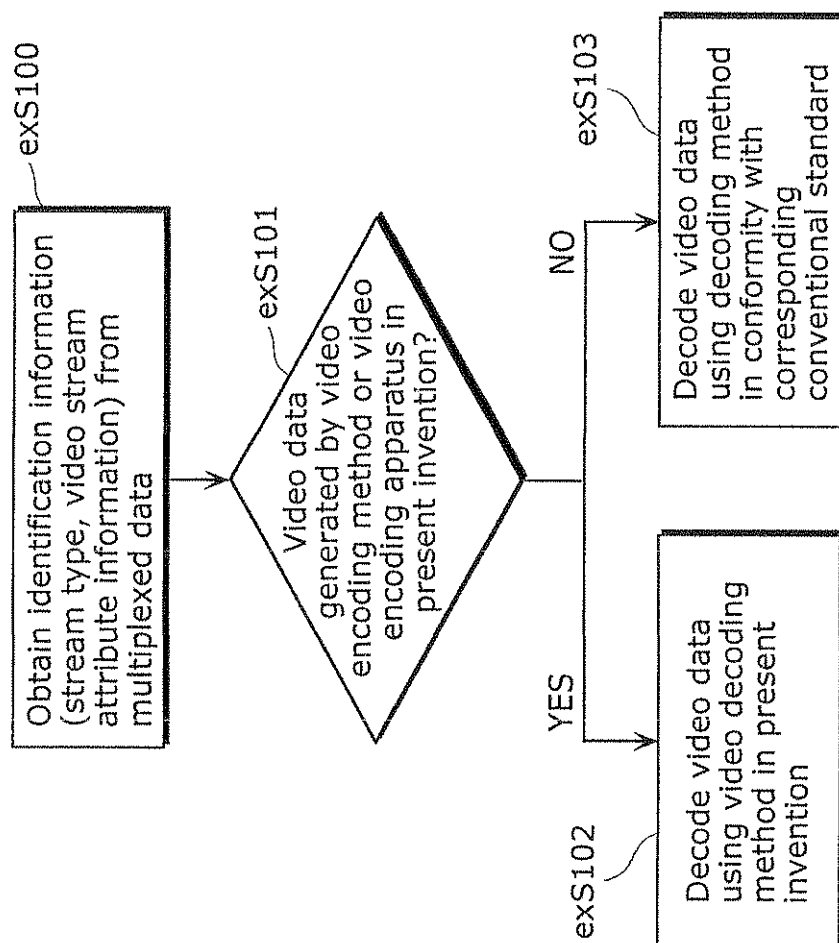


FIG. 31

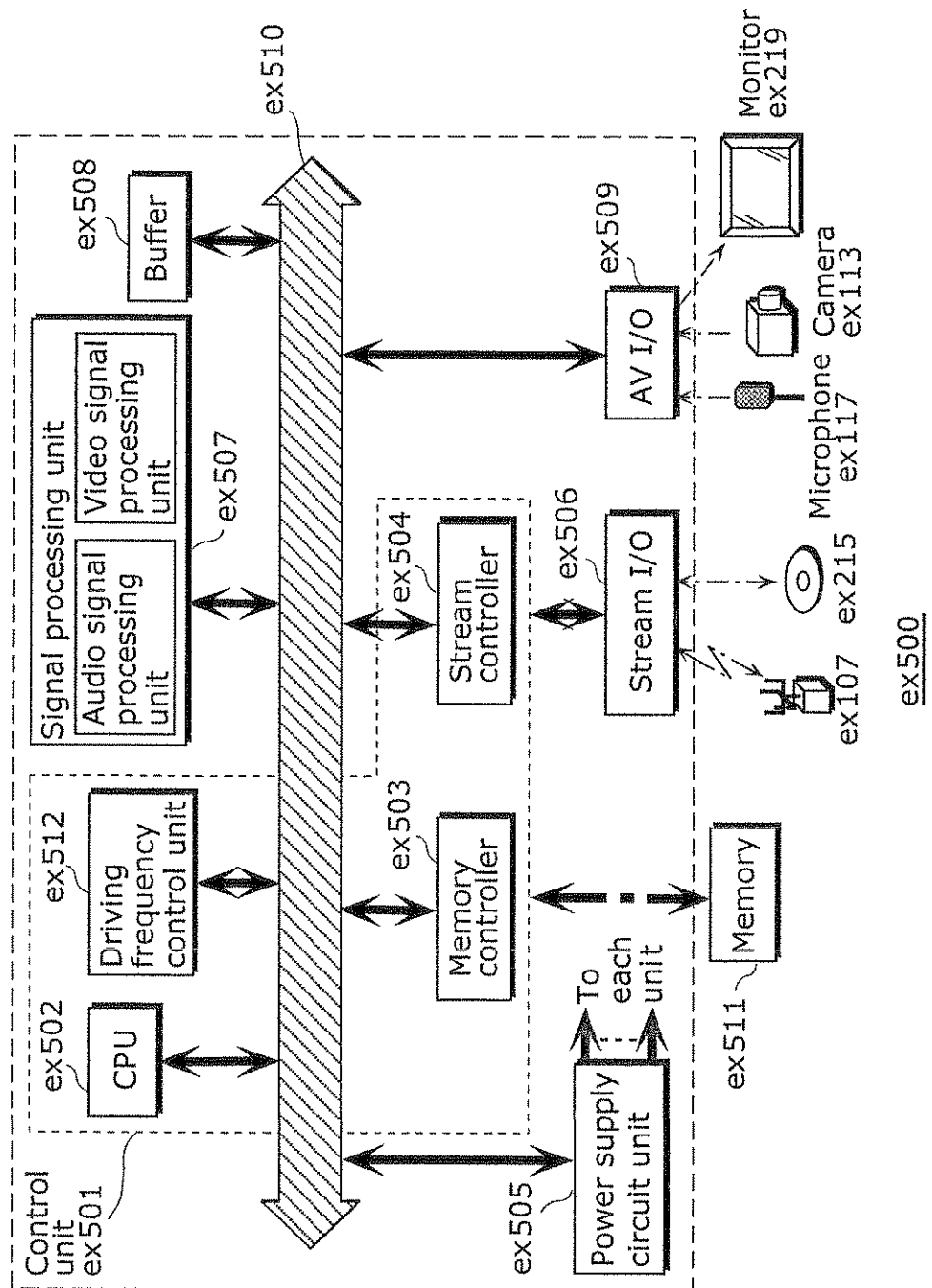


FIG. 32

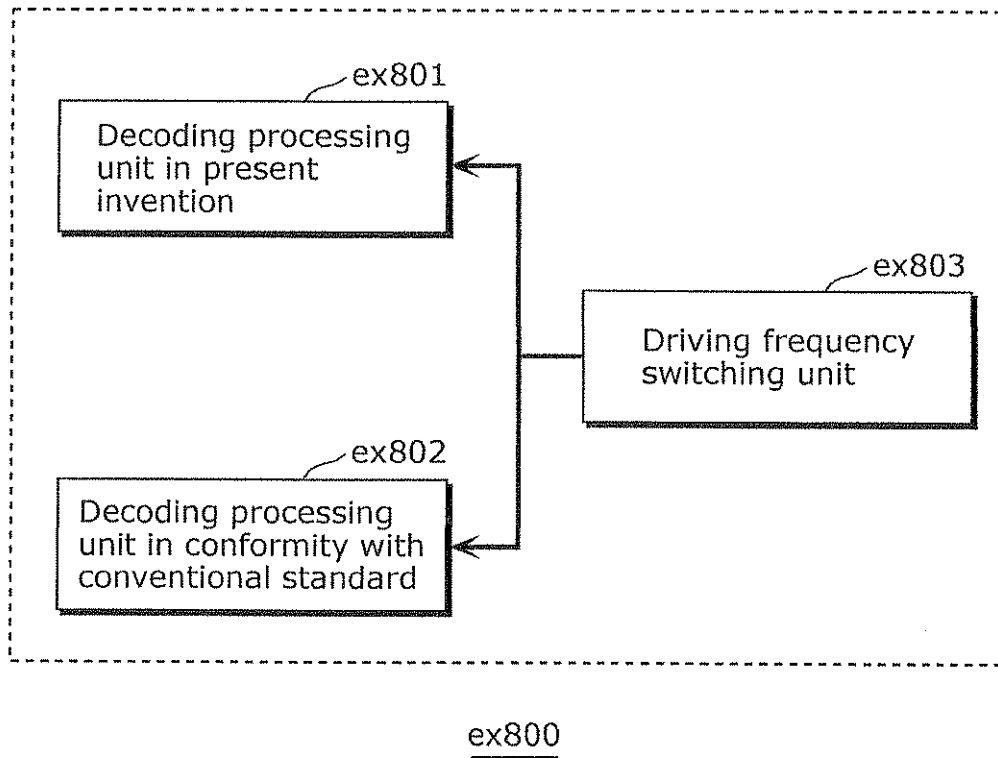


FIG. 33

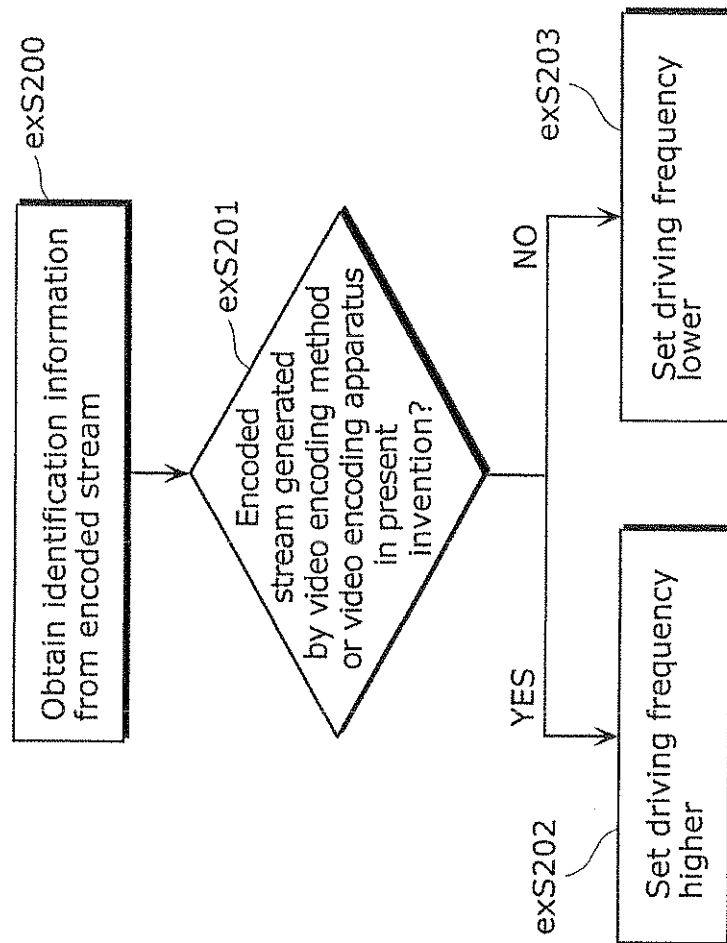


FIG. 34

| Corresponding standard | Driving frequency |
|------------------------|-------------------|
| MPEG-4 AVC             | 500 MHz           |
| MPEG-2                 | 350 MHz           |
| ⋮                      | ⋮                 |

FIG. 35A

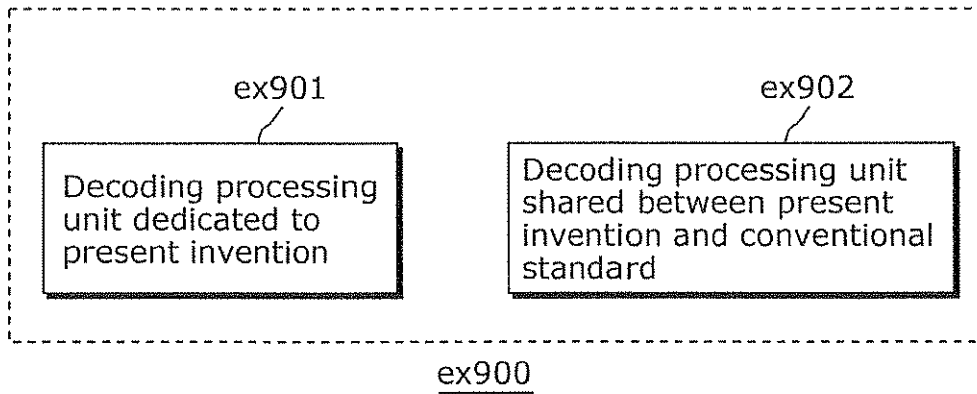


FIG. 35B

