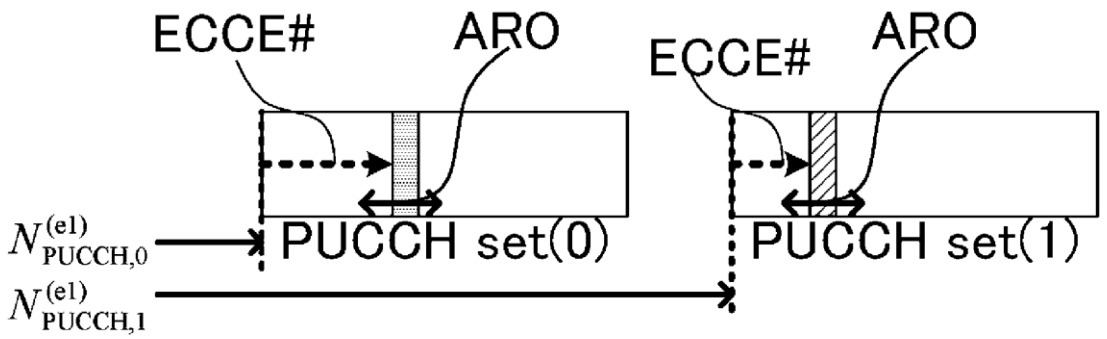
ECCE#
ARO
ECCE#
ARO
$N^{(el)}_{PUCCH,0}$
$N^{(el)}_{PUCCH,1}$
PUCCH set(0)
PUCCH set(1)

FIG. 1

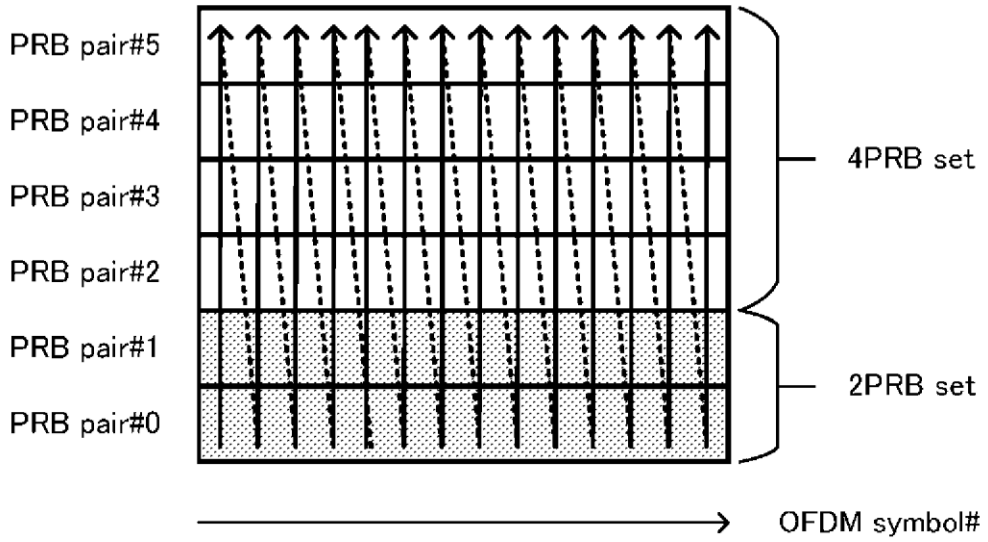
PRB pair#5
PRB pair#4
PRB pair#3
PRB pair#2
PRB pair#1
PRB pair#0
4PRB set
2PRB set
OFDM symbol#

FIG. 2A

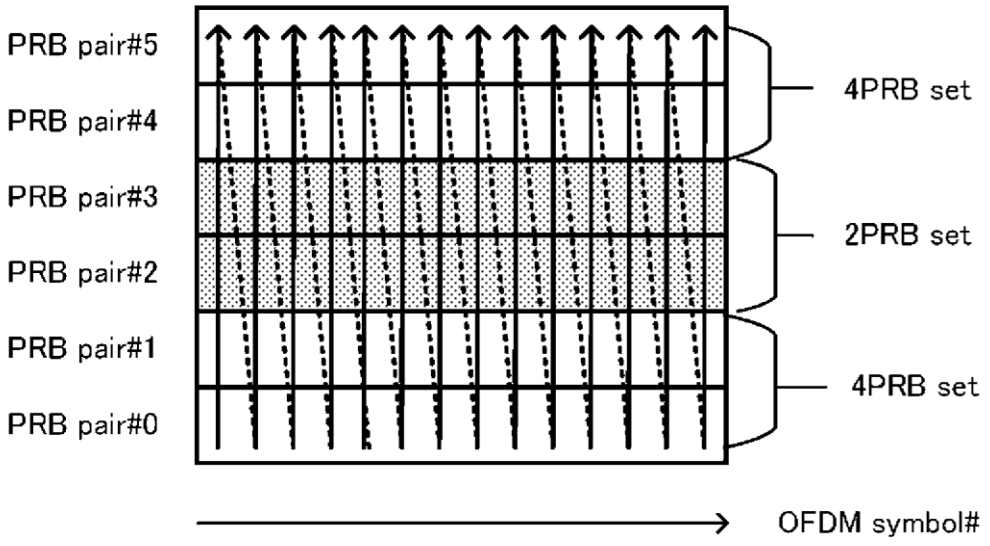
PRB pair#5
PRB pair#4
PRB pair#3
PRB pair#2
PRB pair#1
PRB pair#0
4PRB set
2PRB set
4PRB set
OFDM symbol#

FIG. 2B

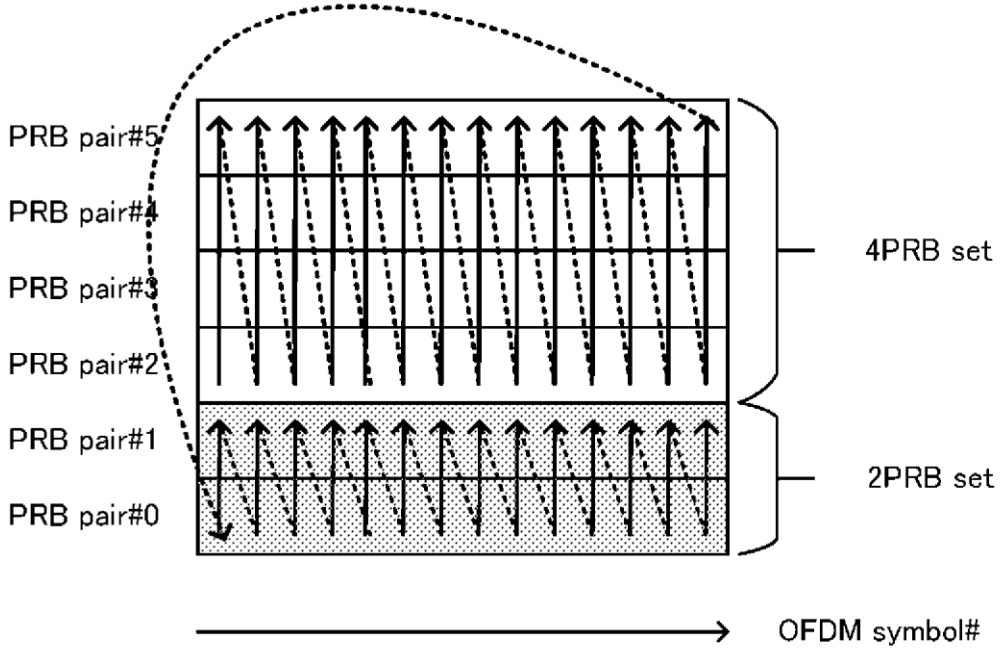
PRB pair#5
PRB pair#4
PRB pair#3
PRB pair#2
PRB pair#1
PRB pair#0
4PRB set
2PRB set
OFDM symbol#

FIG. 3A

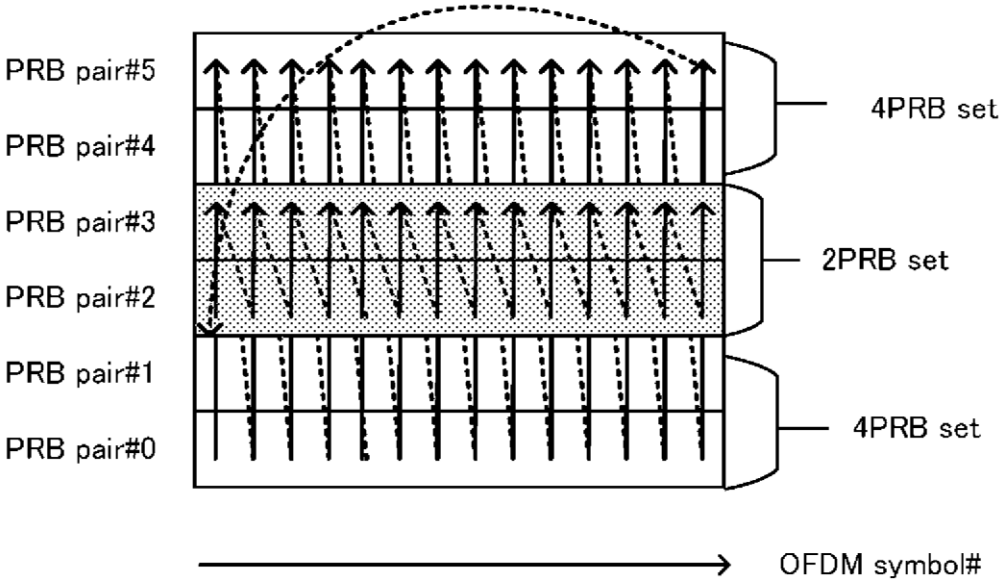
PRB pair#5
PRB pair#4
PRB pair#3
PRB pair#2
PRB pair#1
PRB pair#0
4PRB set
2PRB set
4PRB set
OFDM symbol#

FIG. 3B

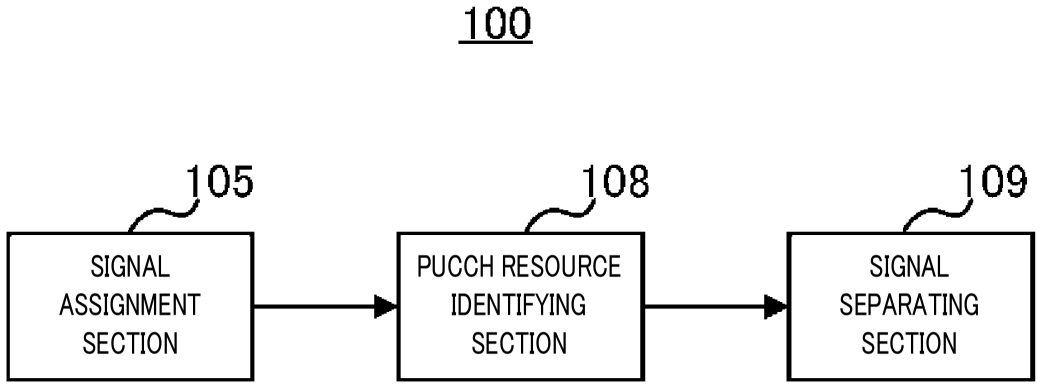
100
105
SIGNAL ASSIGNMENT SECTION
108
PUCCH RESOURCE IDENTIFYING SECTION
109
SIGNAL SEPARATING SECTION

FIG. 4

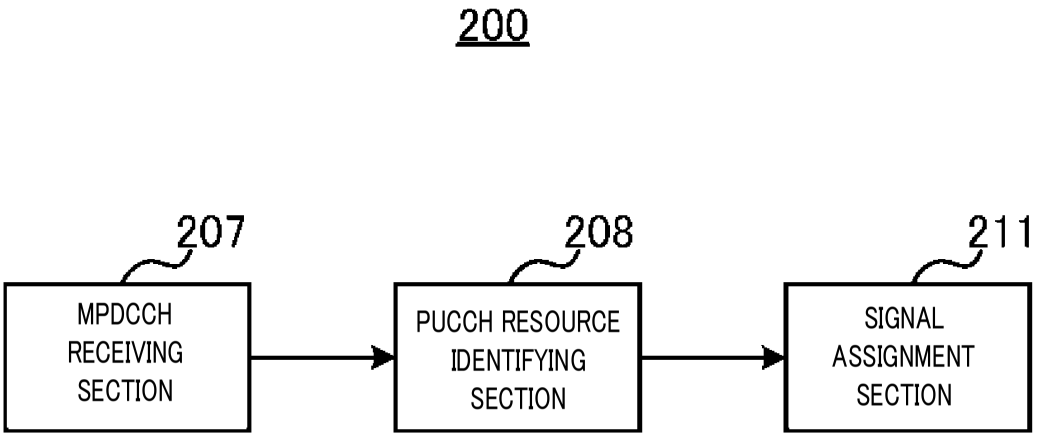
200
207
MPDCCH RECEIVING SECTION
208
PUCCH RESOURCE IDENTIFYING SECTION
211
SIGNAL ASSIGNMENT SECTION

FIG. 5

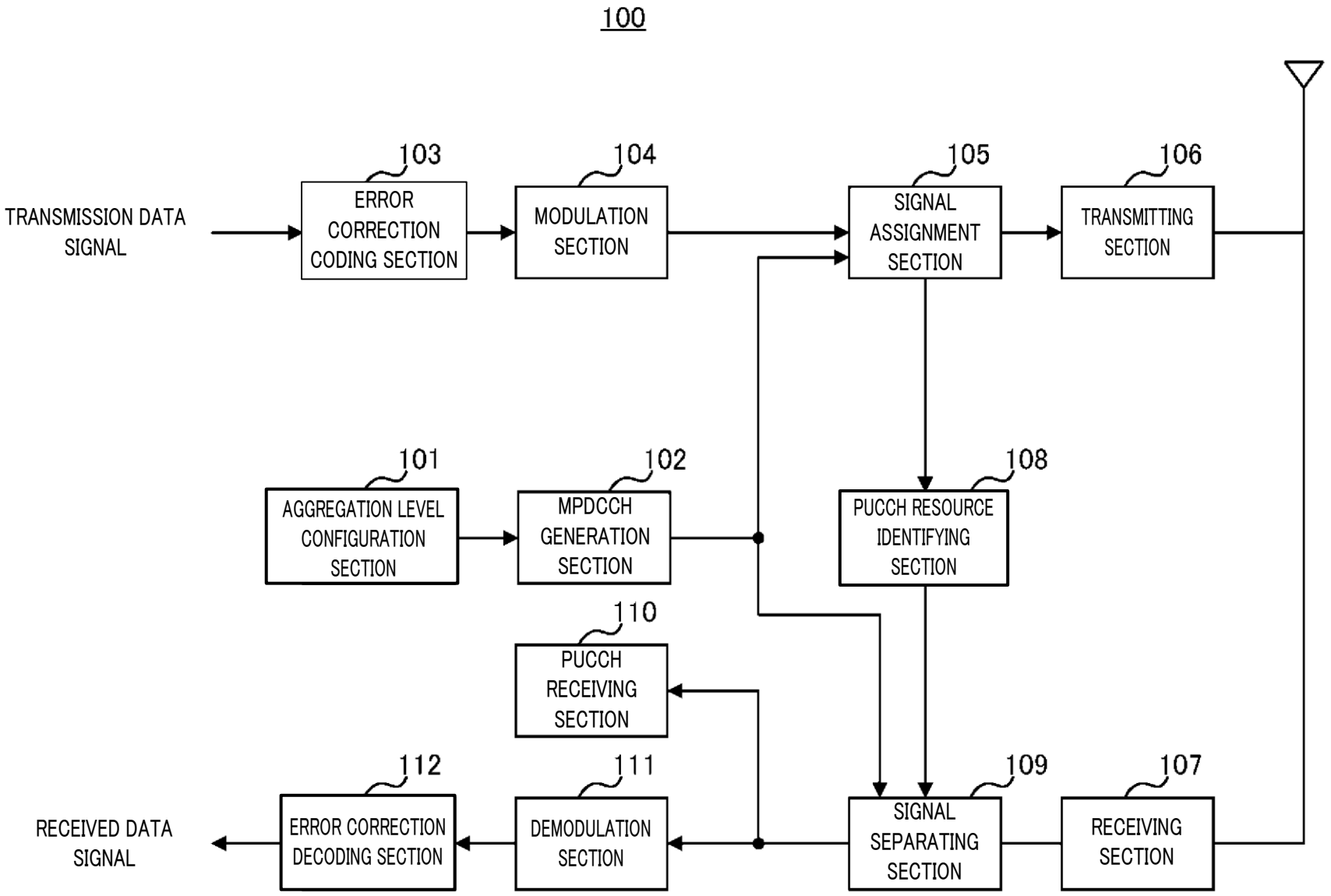
100
TRANSMISSION DATA SIGNAL
103
ERROR CORRECTION CODING SECTION
104
MODULATION SECTION
105
SIGNAL ASSIGNMENT SECTION
106
TRANSMITTING SECTION
101
AGGREGATION LEVEL CONFIGURATION SECTION
102
MPDCCH GENERATION SECTION
108
PUCCH RESOURCE IDENTIFYING SECTION
110
PUCCH RECEIVING SECTION
112
ERROR CORRECTION DECODING SECTION
111
DEMODULATION SECTION
109
SIGNAL SEPARATING SECTION
107
RECEIVING SECTION
RECEIVED DATA SIGNAL

FIG. 6

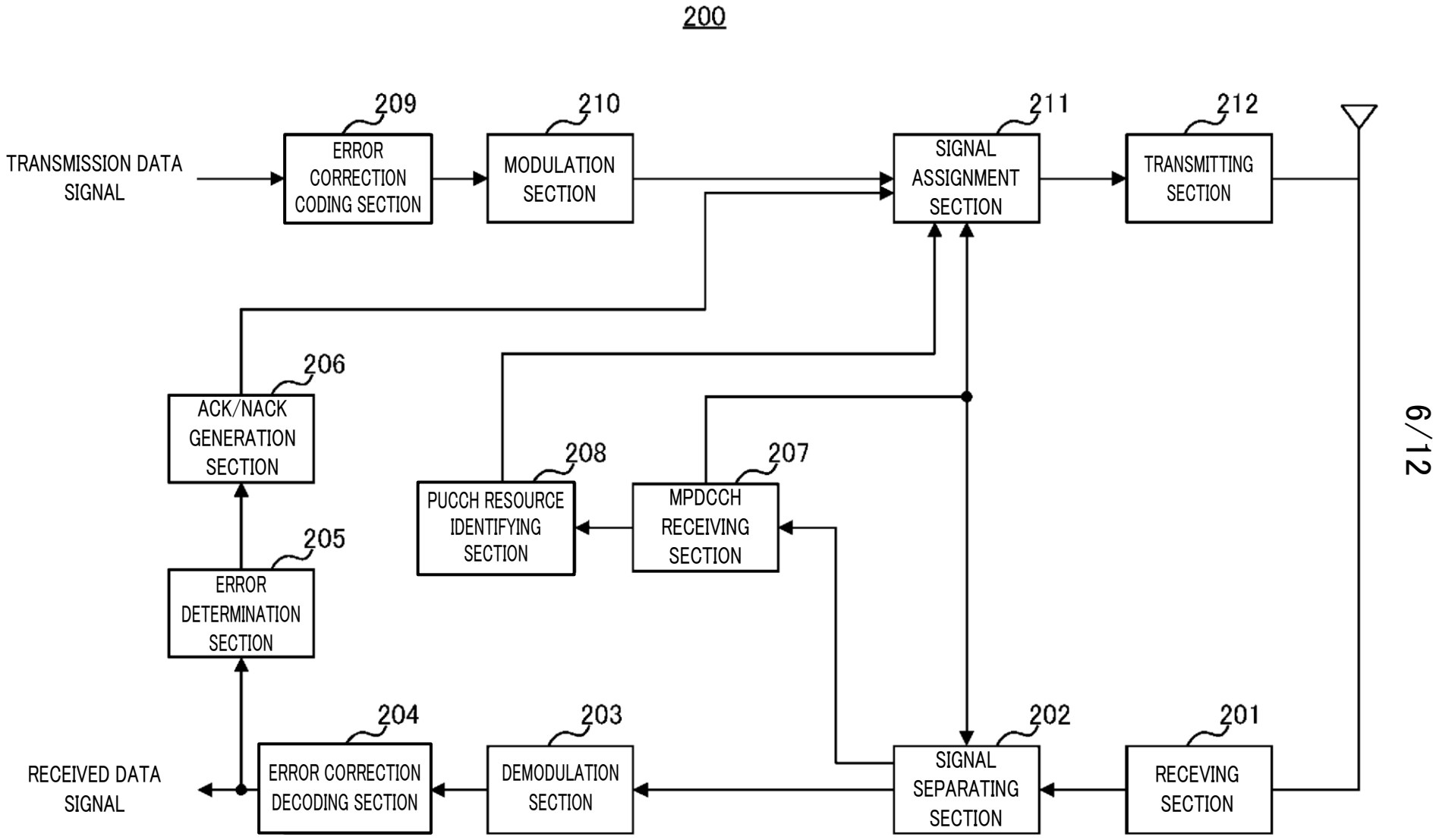
200
TRANSMISSION DATA SIGNAL
209
ERROR CORRECTION CODING SECTION
210
MODULATION SECTION
211
SIGNAL ASSIGNMENT SECTION
212
TRANSMITTING SECTION
206
ACK/NACK GENERATION SECTION
208
PUCCH RESOURCE IDENTIFYING SECTION
207
MPDCCH RECEIVING SECTION
205
ERROR DETERMINATION SECTION
RECEIVED DATA SIGNAL
204
ERROR CORRECTION DECODING SECTION
203
DEMODULATION SECTION
202
SIGNAL SEPARATING SECTION
201
RECEVING SECTION

FIG. 7

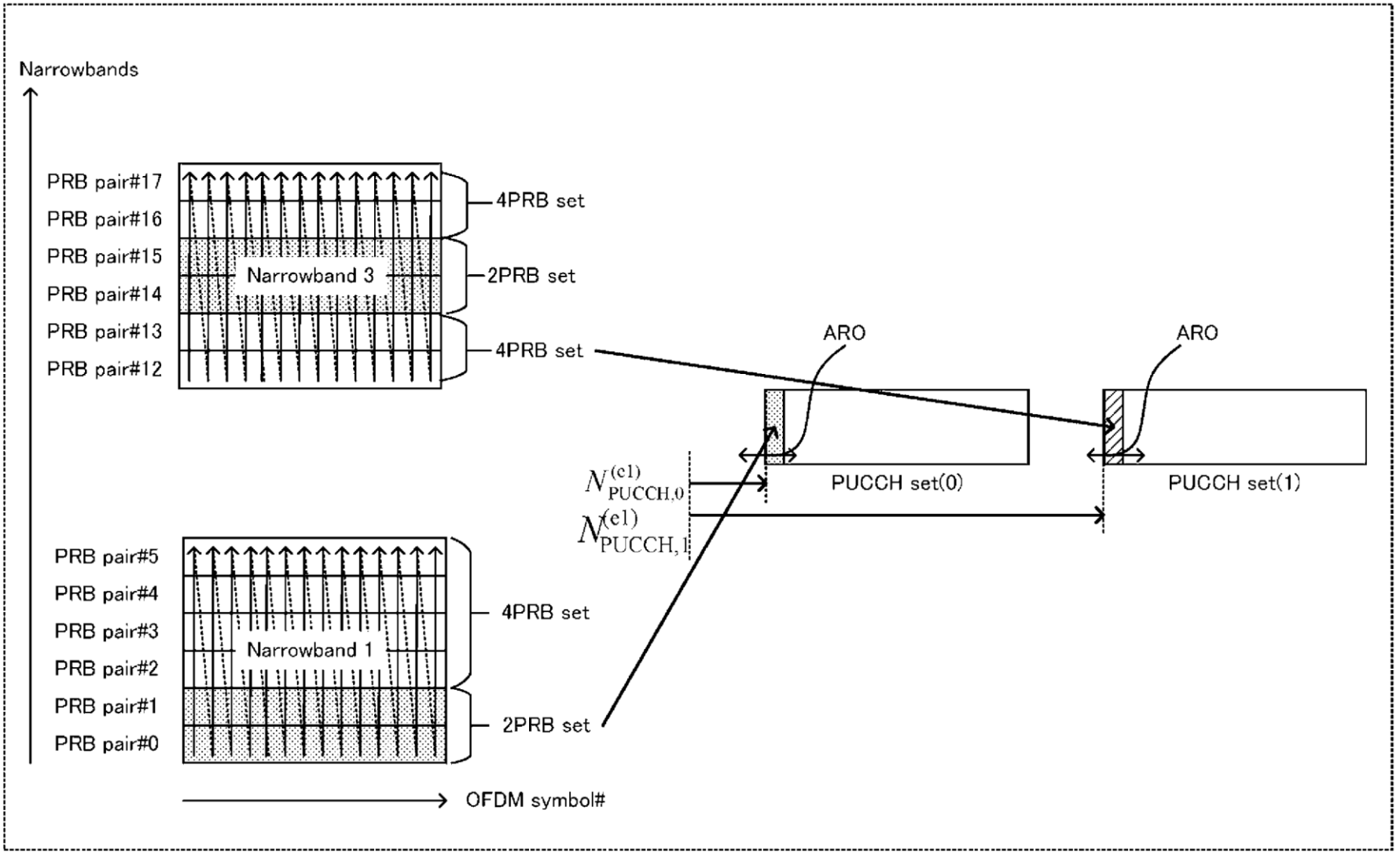
Narrowbands
PRB pair#17
PRB pair#16
PRB pair#15
PRB pair#14
PRB pair#13
PRB pair#12
Narrowband 3
4PRB set
2PRB set
4PRB set
PRB pair#5
PRB pair#4
PRB pair#3
PRB pair#2
PRB pair#1
PRB pair#0
Narrowband 1
4PRB set
2PRB set
OFDM symbol#
ARO
ARO
$N_{\mathrm{PUCCH},0}^{(\mathrm{el})}$
$N_{\mathrm{PUCCH},1}^{(\mathrm{el})}$
PUCCH set(0)
PUCCH set(1)

FIG. 8

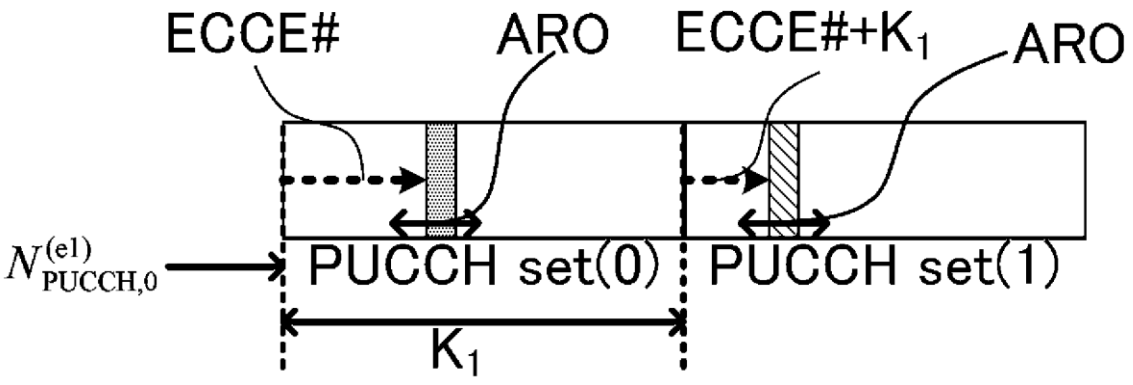
ECCE#
ARO
ECCE#+K1
ARO
N(el) PUCCH,0
PUCCH set(0)
PUCCH set(1)
K1

FIG. 9

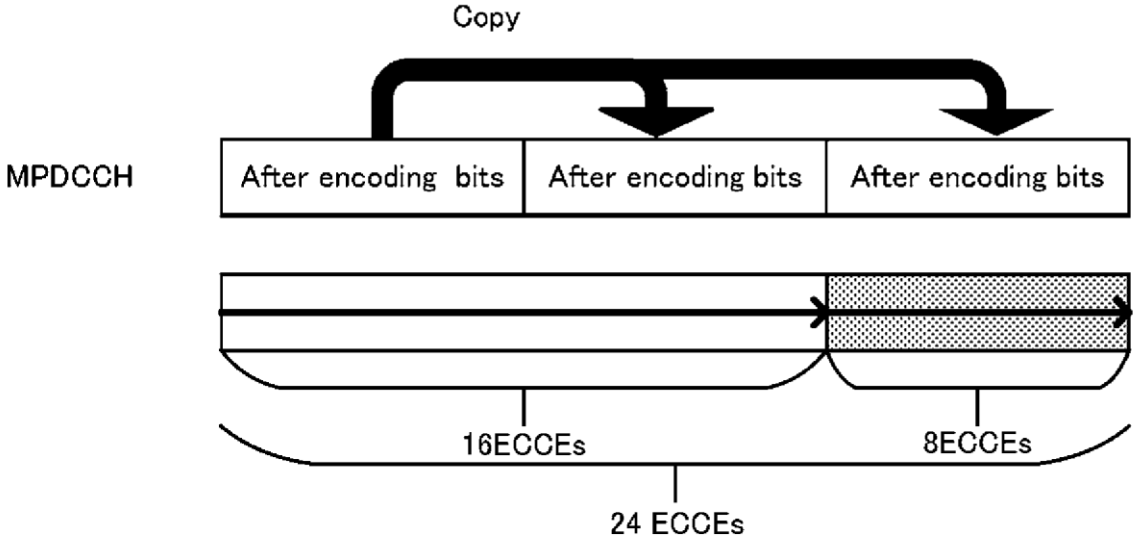
Copy
MPDCCH
After encoding bits
After encoding bits
After encoding bits
16ECCEs
8ECCEs
24 ECCEs

FIG. 10

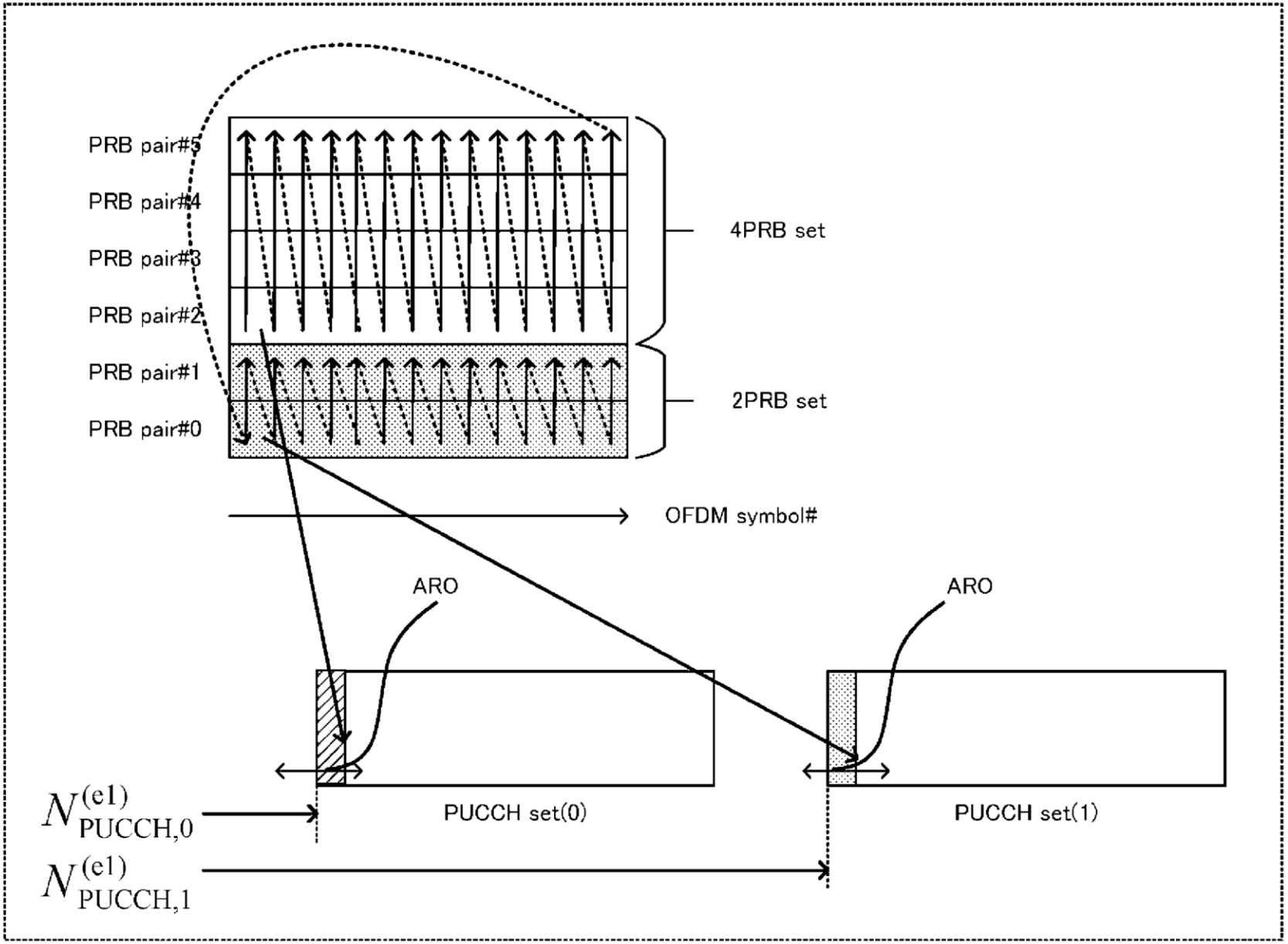
PRB pair#5
PRB pair#4
PRB pair#3
PRB pair#2
PRB pair#1
PRB pair#0
4PRB set
2PRB set
OFDM symbol#
ARO
ARO
PUCCH set(0)
PUCCH set(1)
$N^{(e1)}_{PUCCH,0}$
$N^{(e1)}_{PUCCH,1}$

FIG. 11

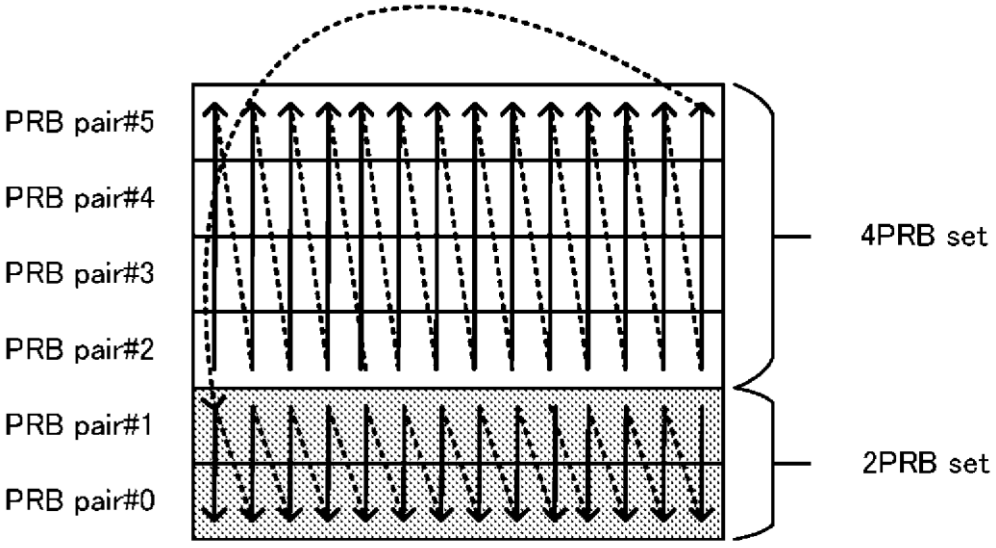

FIG. 12A

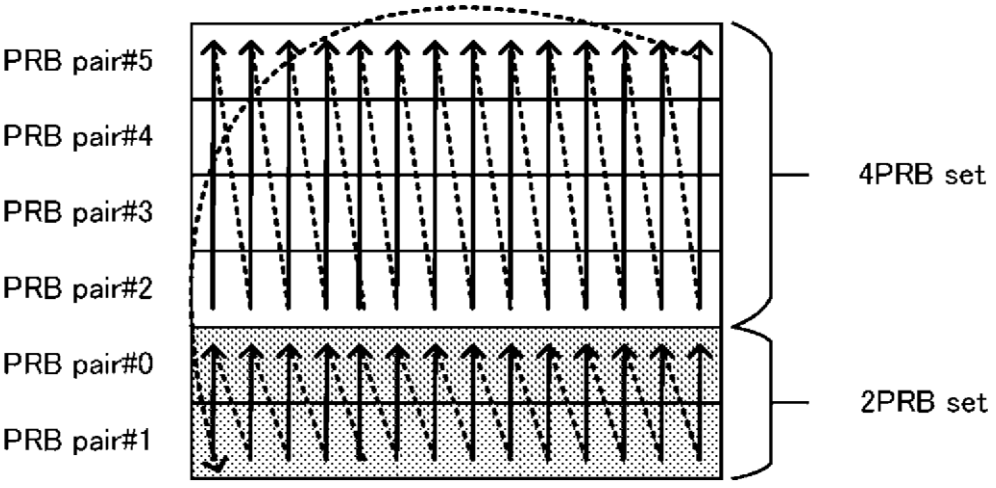

FIG. 12B

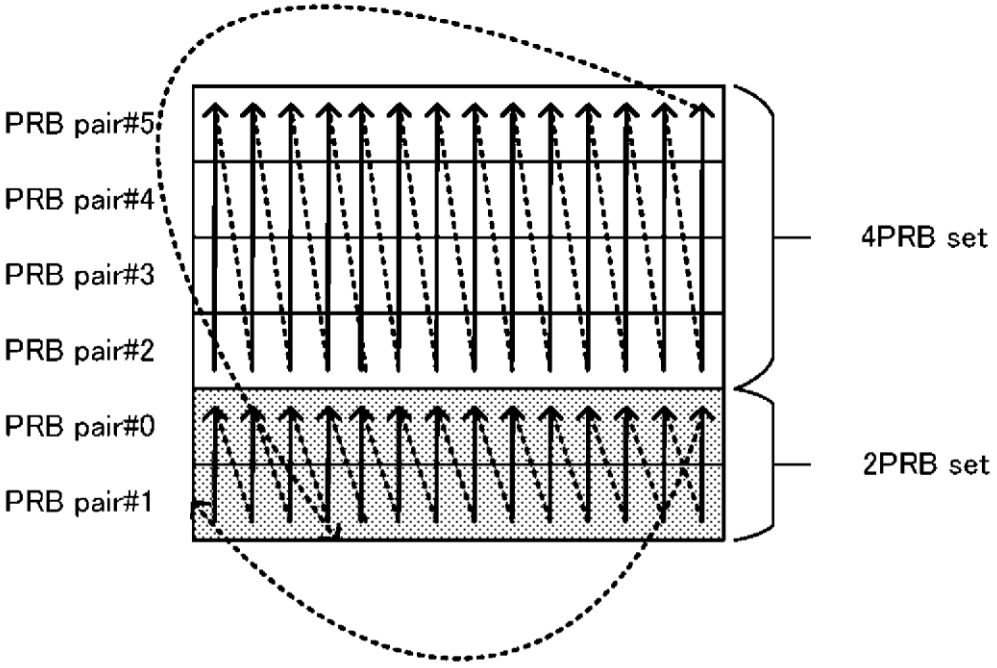
PRB pair#5
PRB pair#4
PRB pair#3
PRB pair#2
PRB pair#0
PRB pair#1
4PRB set
2PRB set

FIG. 12C

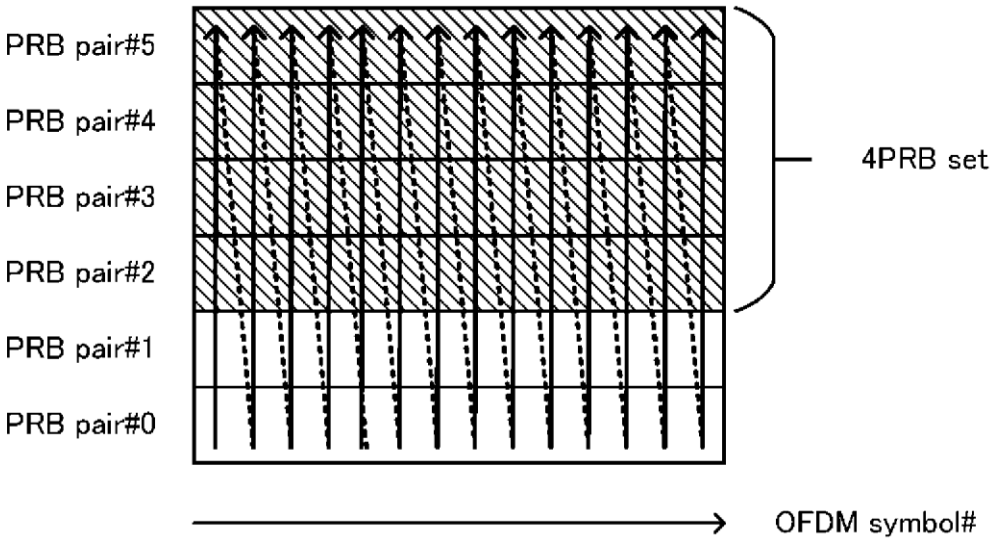

FIG. 13A

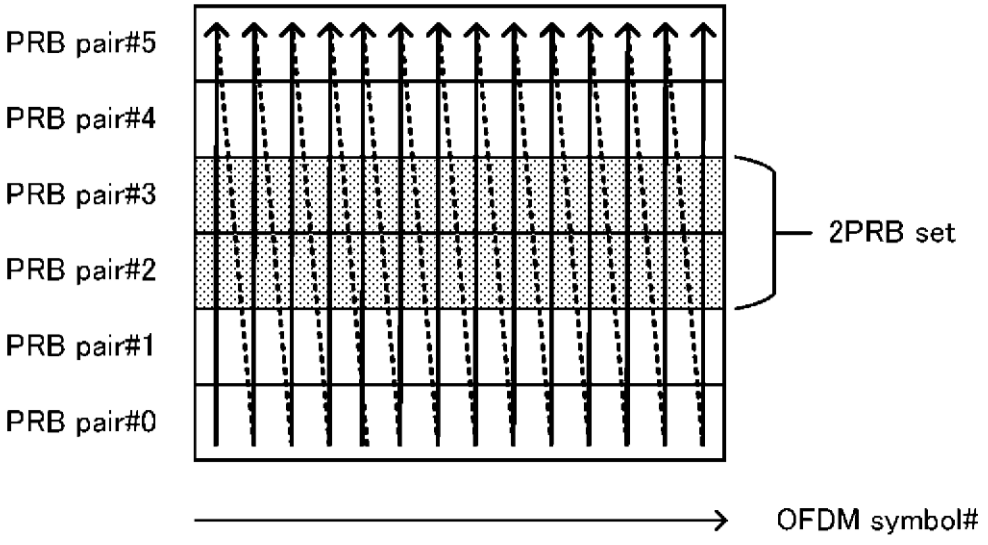

FIG. 13B