FIG 1A

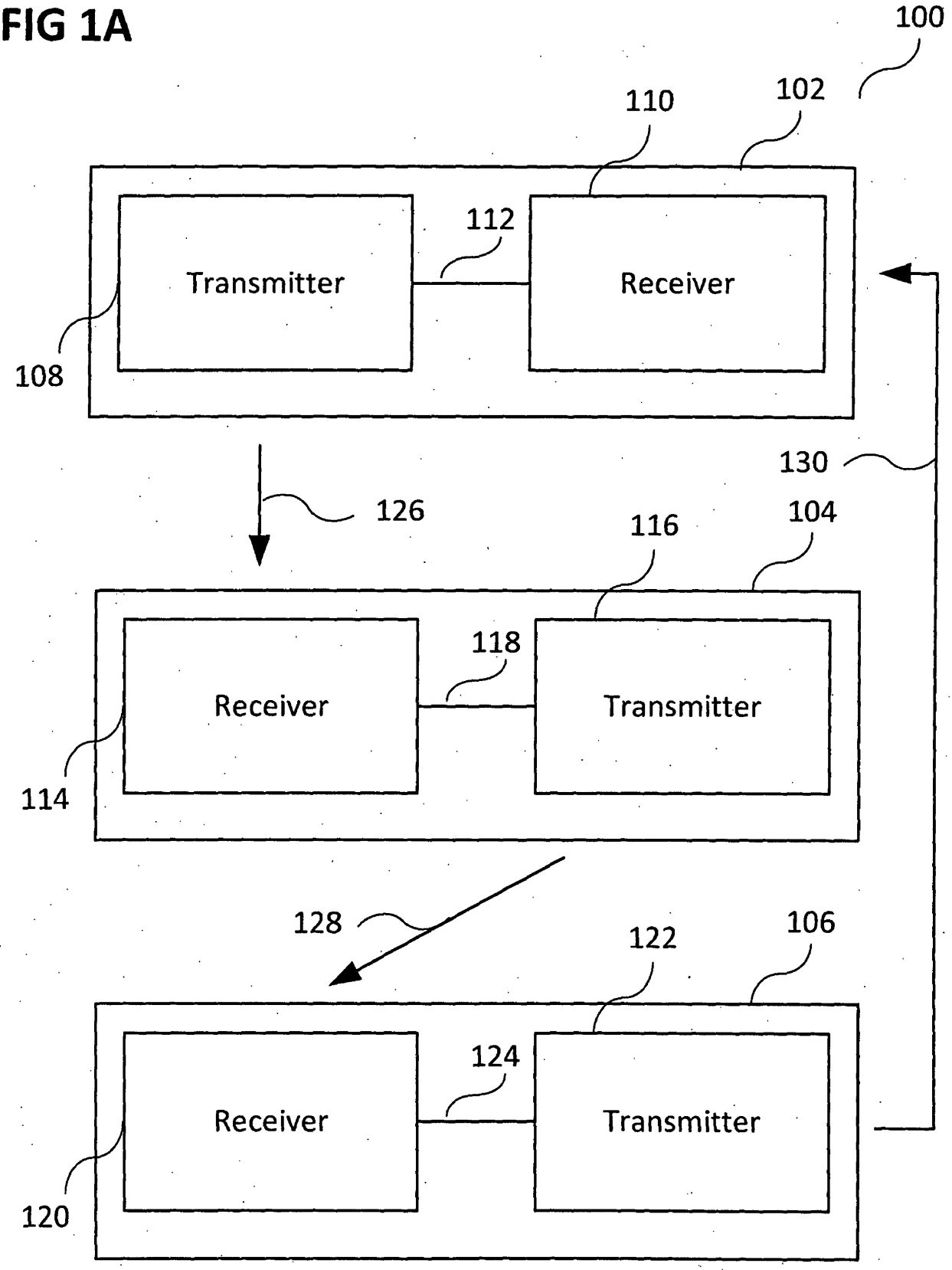

100
110
102
112
Transmitter
Receiver
108
130
126
116
104
118
Receiver
Transmitter
114
128
122
106
124
Receiver
Transmitter
120

FIG 1B

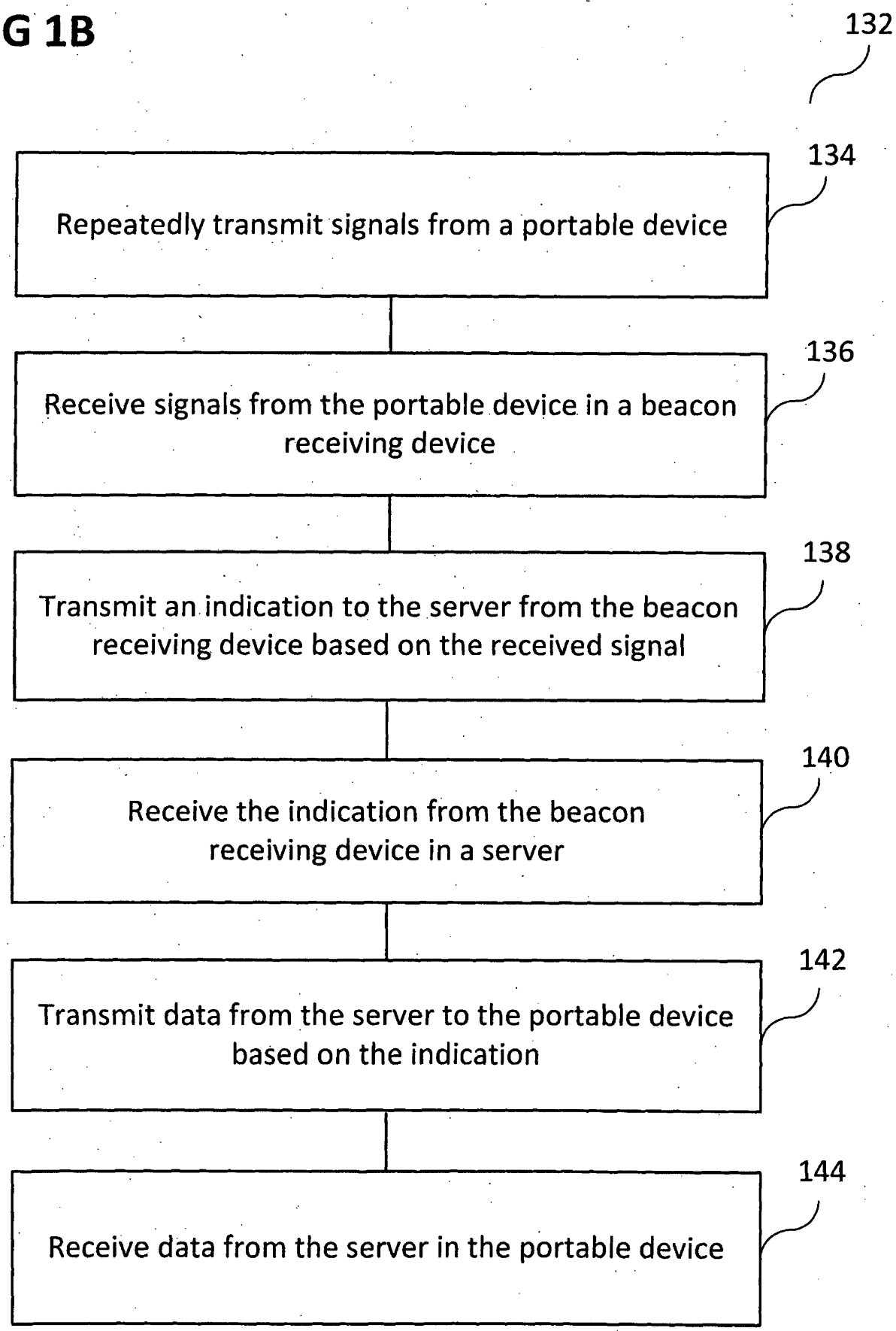

132
Repeatedly transmit signals from a portable device
134
Receive signals from the portable device in a beacon receiving device
136
Transmit an indication to the server from the beacon receiving device based on the received signal
138
Receive the indication from the beacon receiving device in a server
140
Transmit data from the server to the portable device based on the indication
142
Receive data from the server in the portable device
144

FIG 2

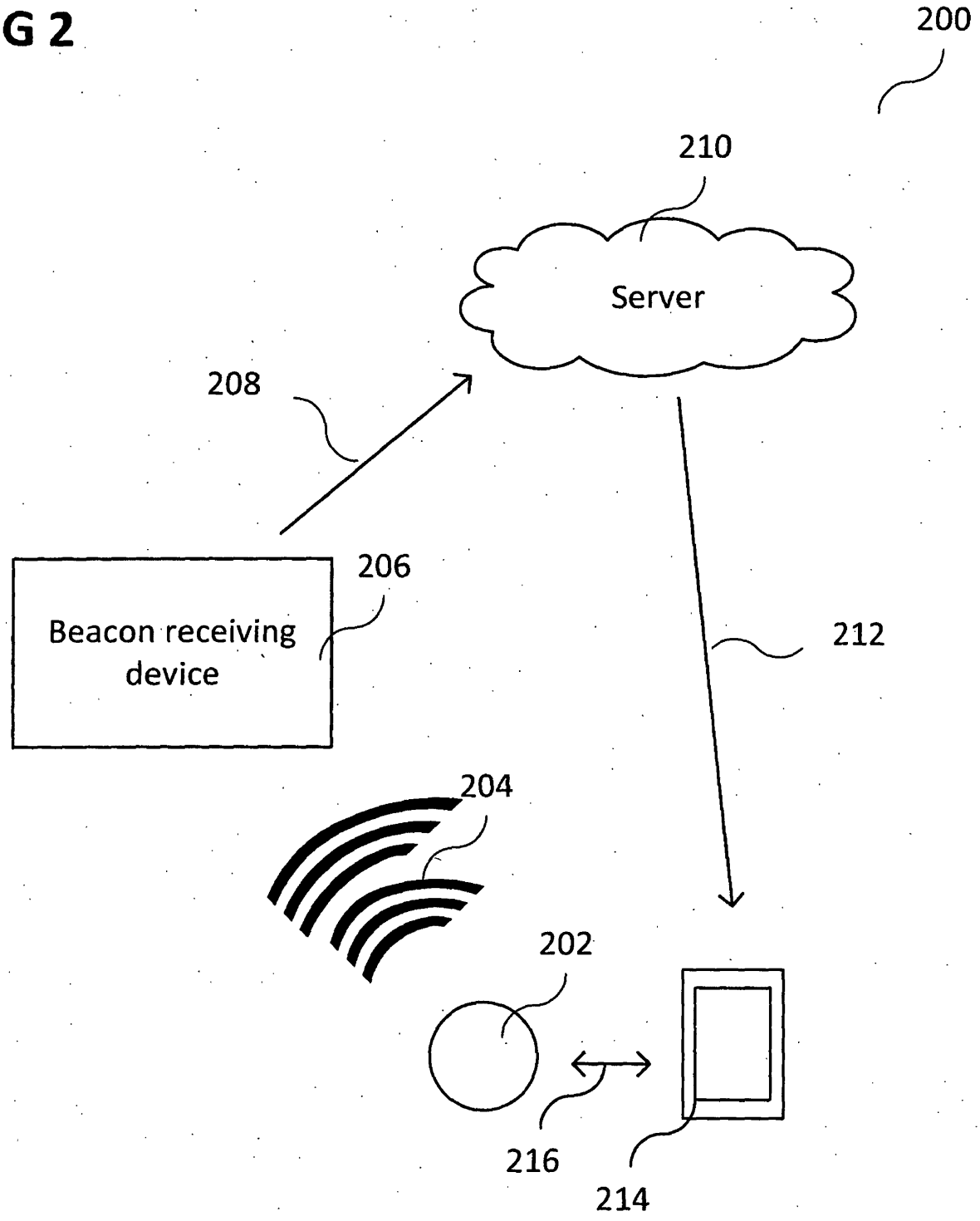

200
210
Server
208
206
Beacon receiving device
212
204
202
216
214

FIG 3A

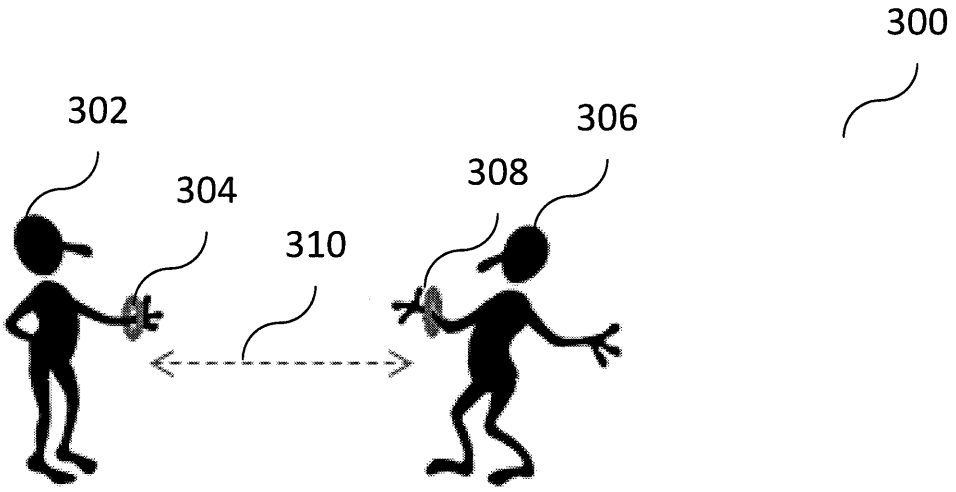

300
302
304
306
308
310

FIG 3D

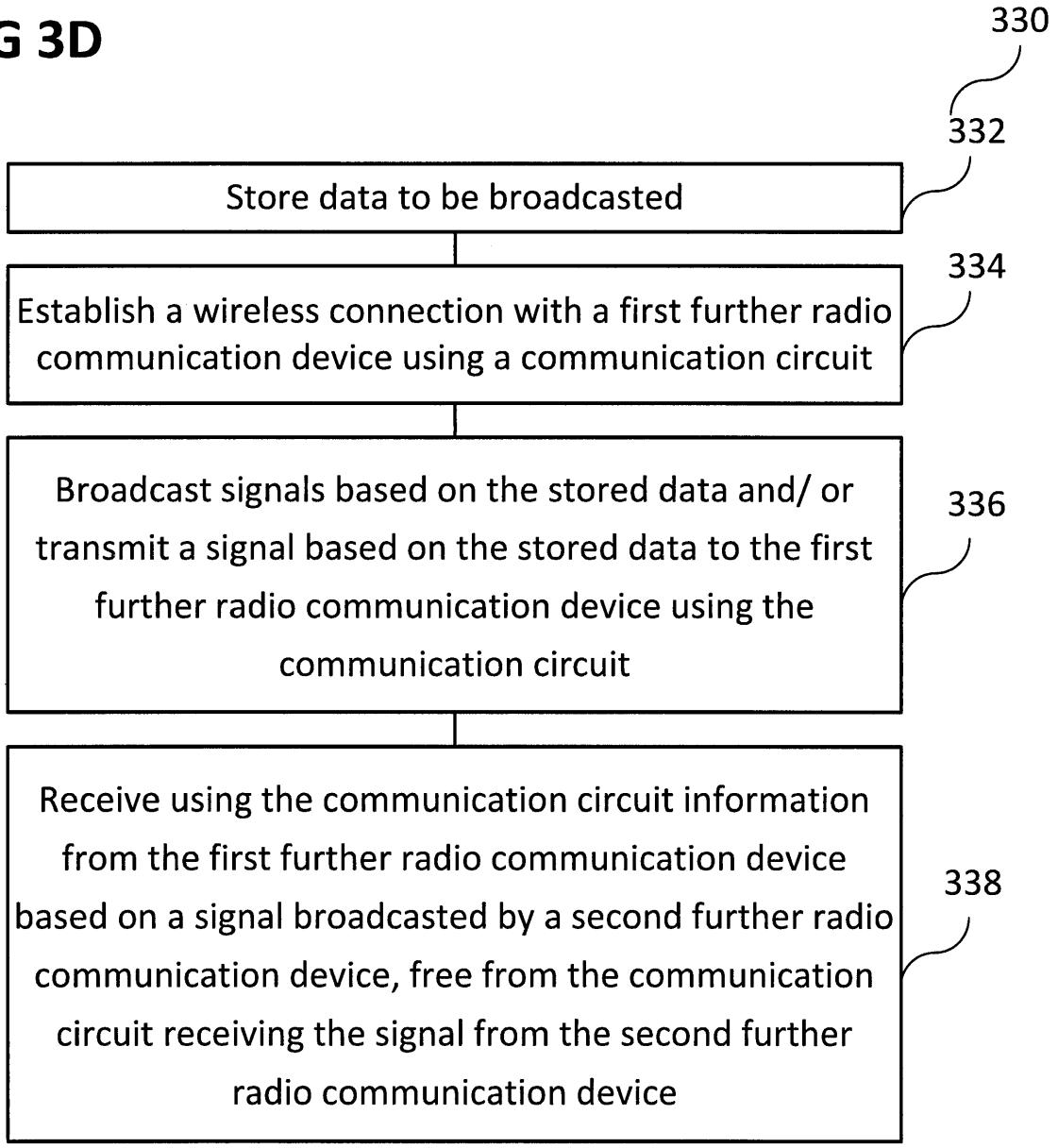

330
332
Store data to be broadcasted
334
Establish a wireless connection with a first further radio communication device using a communication circuit
336
Broadcast signals based on the stored data and/ or transmit a signal based on the stored data to the first further radio communication device using the communication circuit
338
Receive using the communication circuit information from the first further radio communication device based on a signal broadcasted by a second further radio communication device, free from the communication circuit receiving the signal from the second further radio communication device

FIG 3B

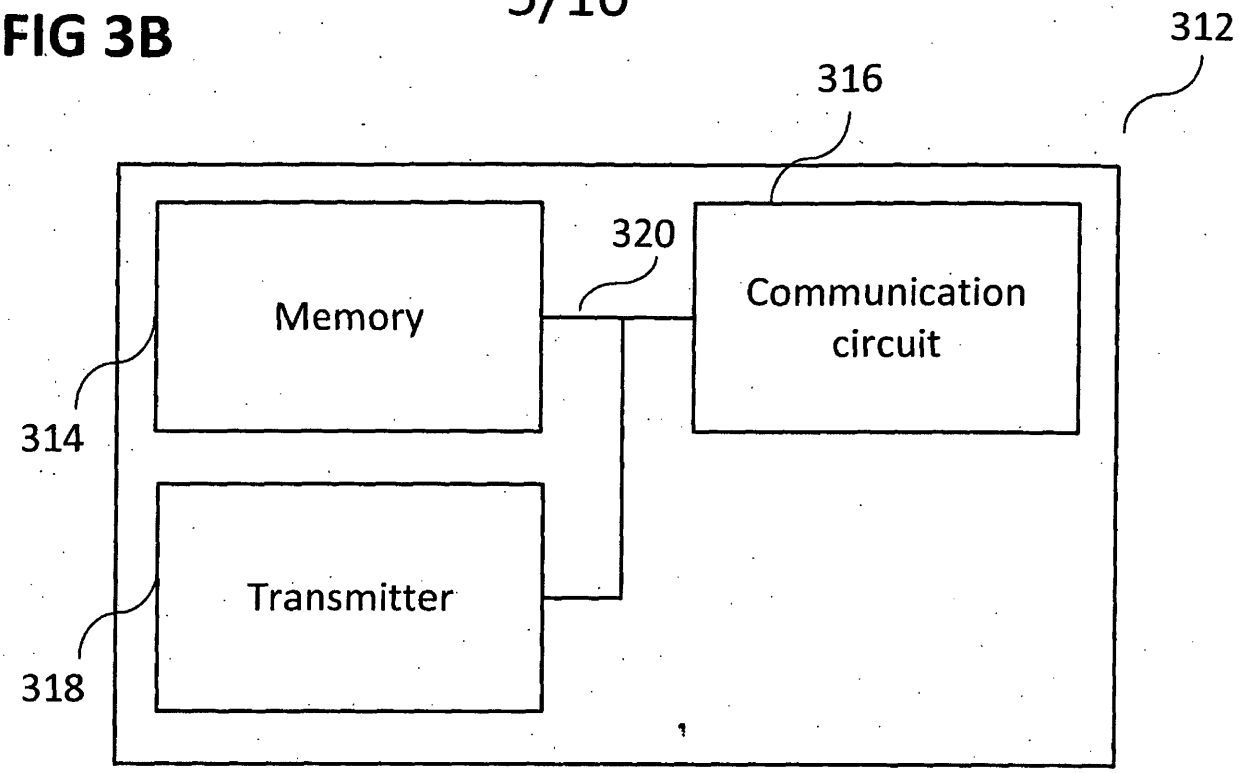

312
316
320
Memory
Communication circuit
314
Transmitter
318

FIG 3C

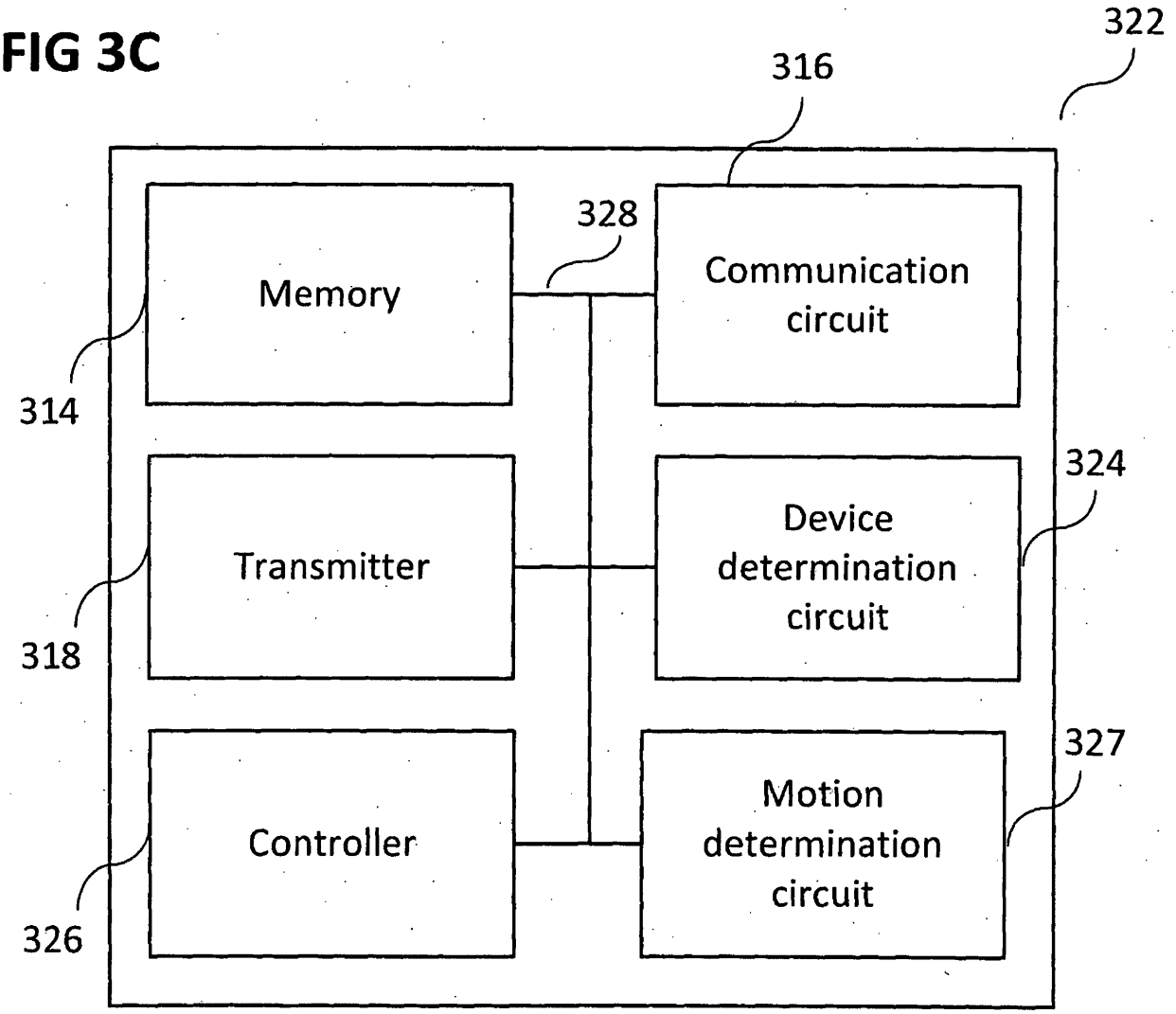

322
316
328
Memory
Communication circuit
314
324
Transmitter
Device determination circuit
318
327
Controller
Motion determination circuit
326

FIG 4A

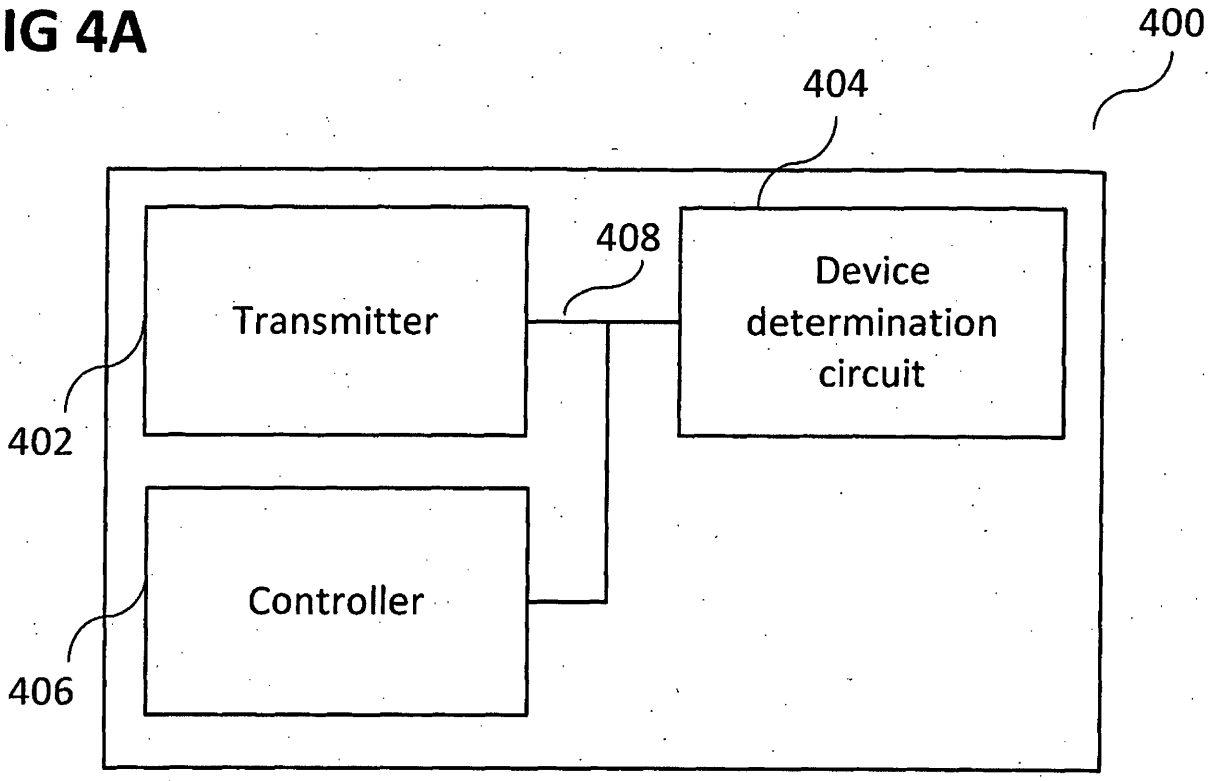

400
404
408
Transmitter
Device determination circuit
402
Controller
406

FIG 4B

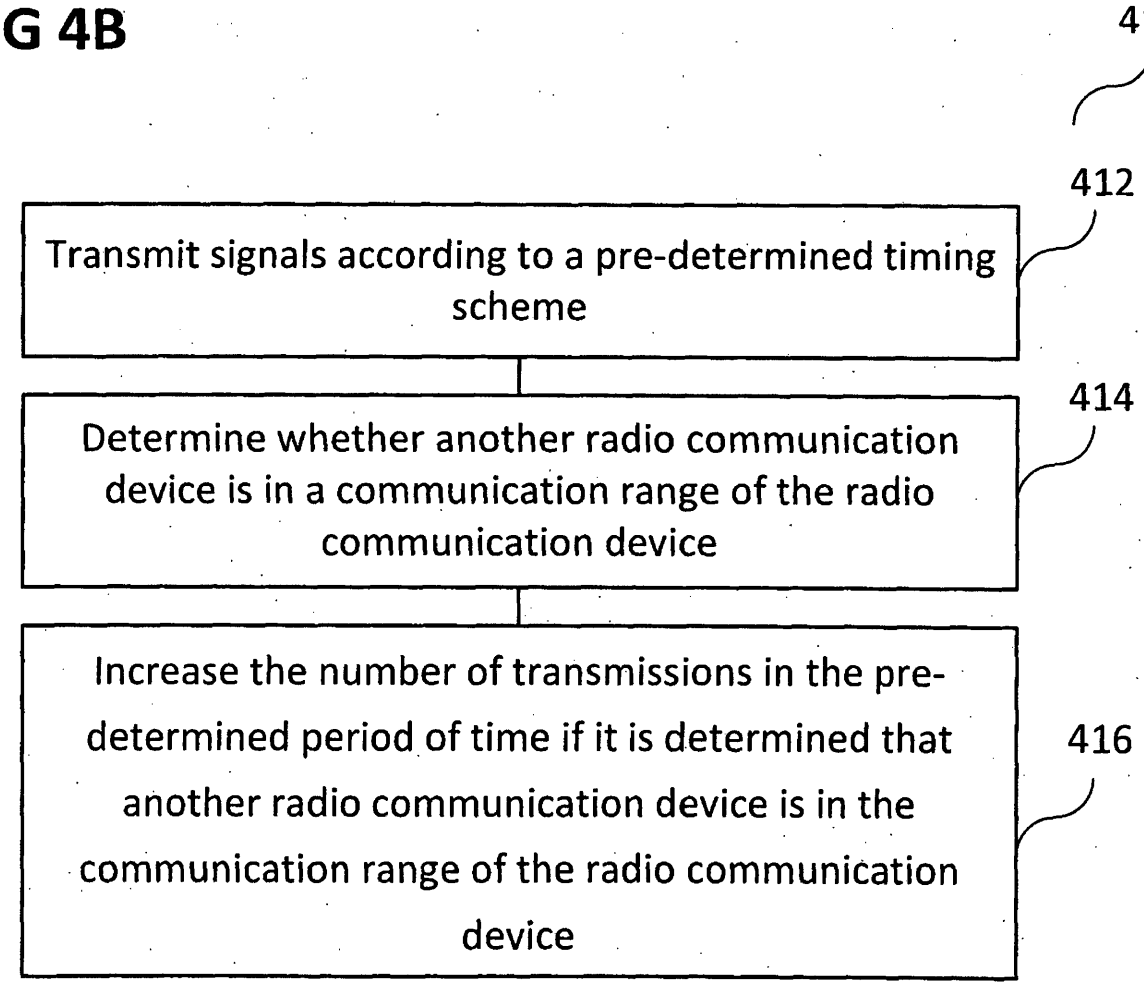

410
412
Transmit signals according to a pre-determined timing scheme
414
Determine whether another radio communication device is in a communication range of the radio communication device
Increase the number of transmissions in the pre-determined period of time if it is determined that another radio communication device is in the communication range of the radio communication device
416

FIG 4C

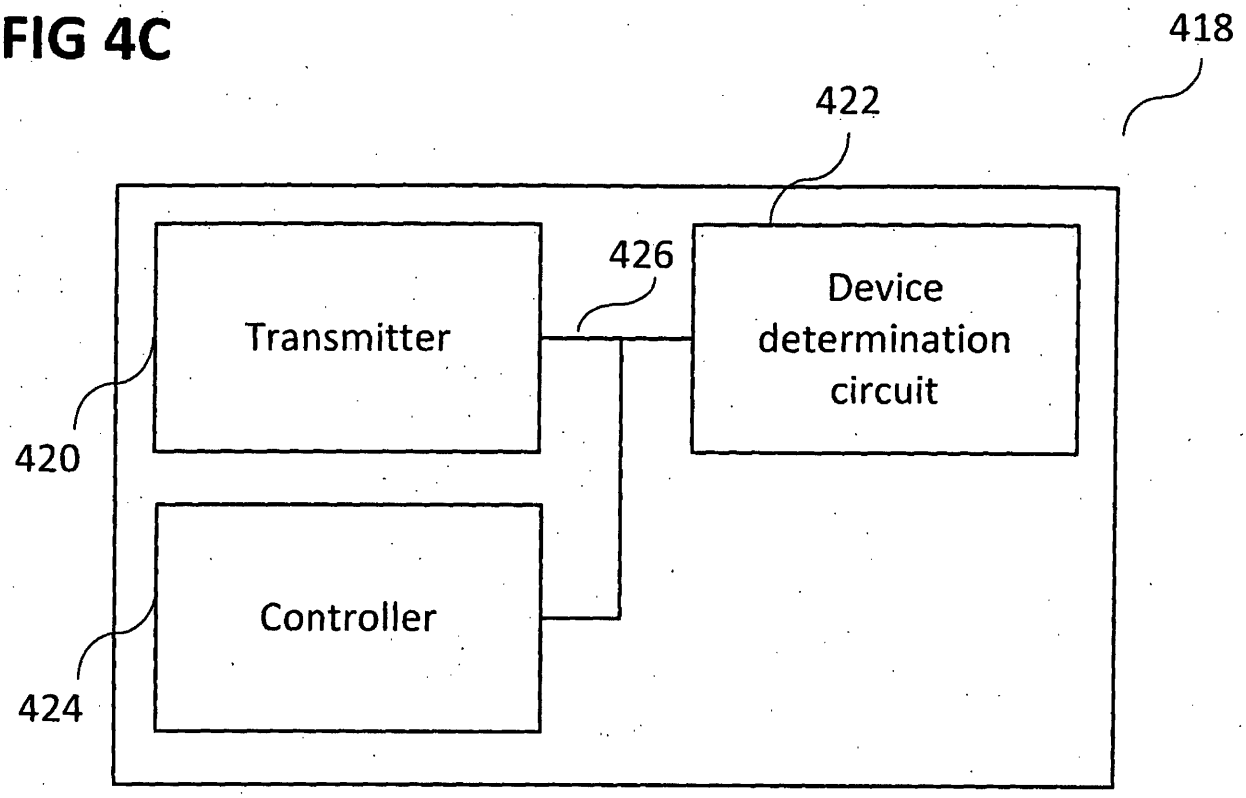
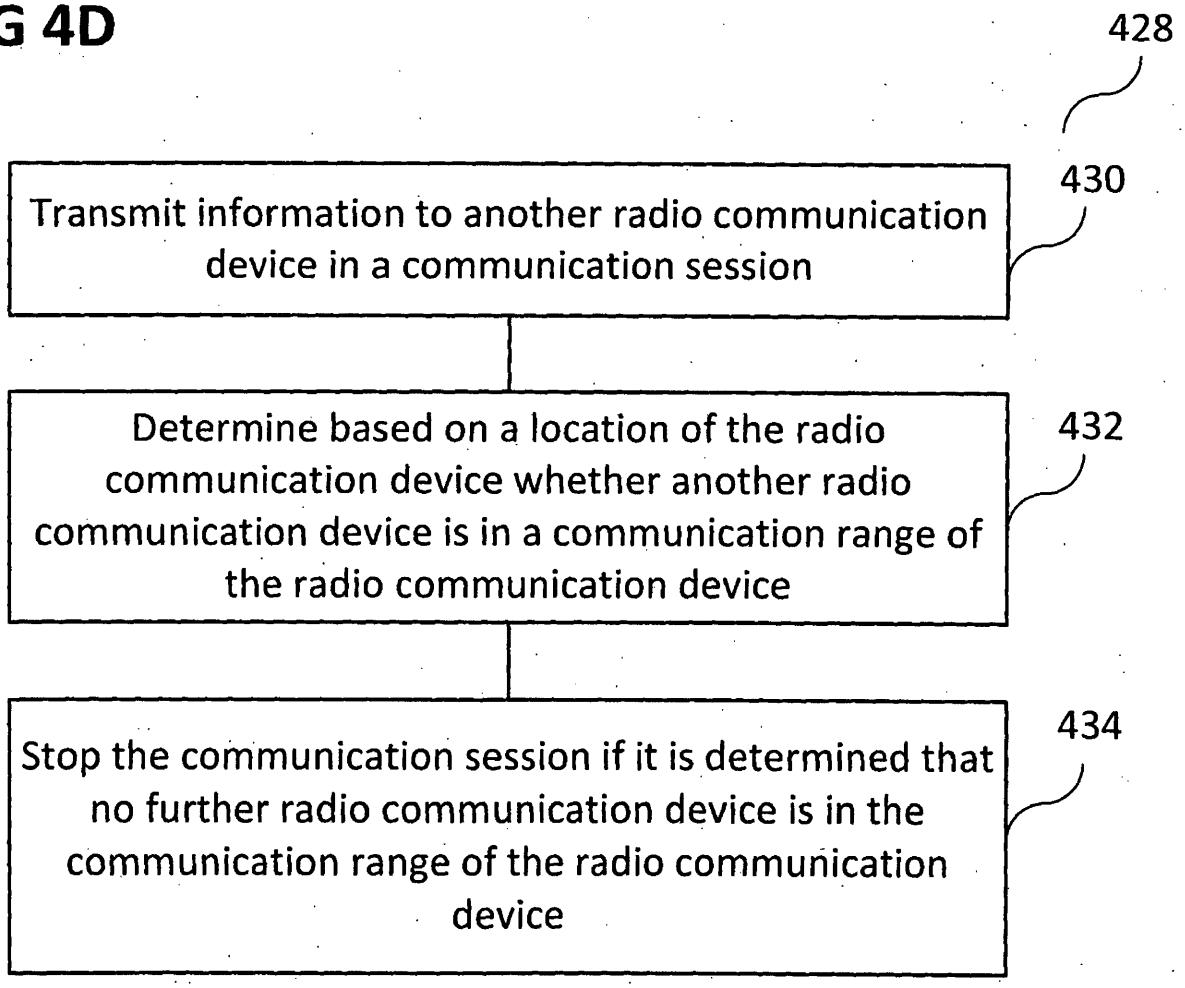

418
422
426
Transmitter
Device determination circuit
420
Controller
424

FIG 4D


428
Transmit information to another radio communication device in a communication session
430
Determine based on a location of the radio communication device whether another radio communication device is in a communication range of the radio communication device
432
Stop the communication session if it is determined that no further radio communication device is in the communication range of the radio communication device
434

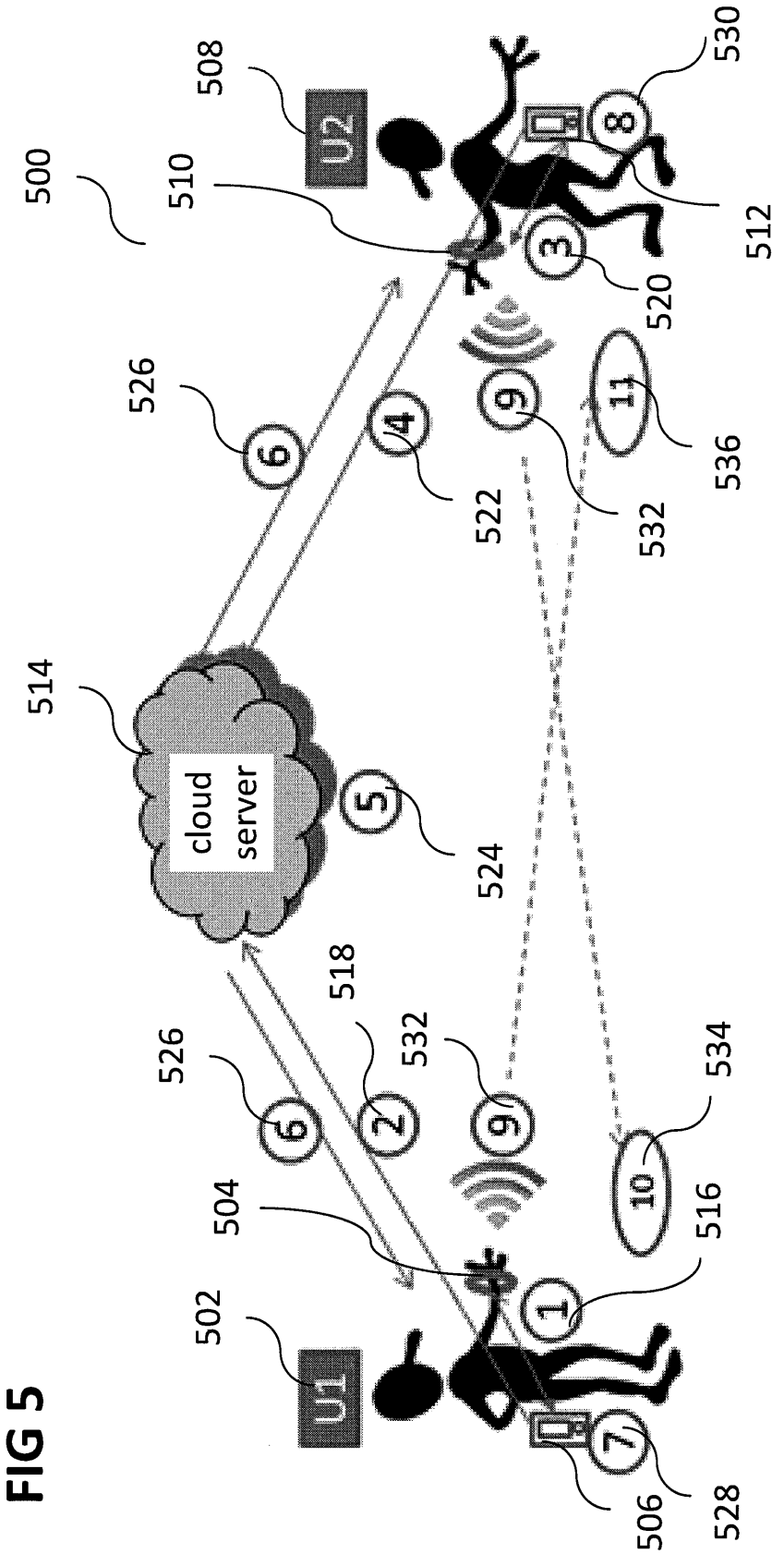

500
502
504
506
508
510
512
514
516
518
520
522
524
526
528
530
532
534
536
U1
U2
cloud server
1
2
3
4
5
6
7
8
9
10
11

FIG 5

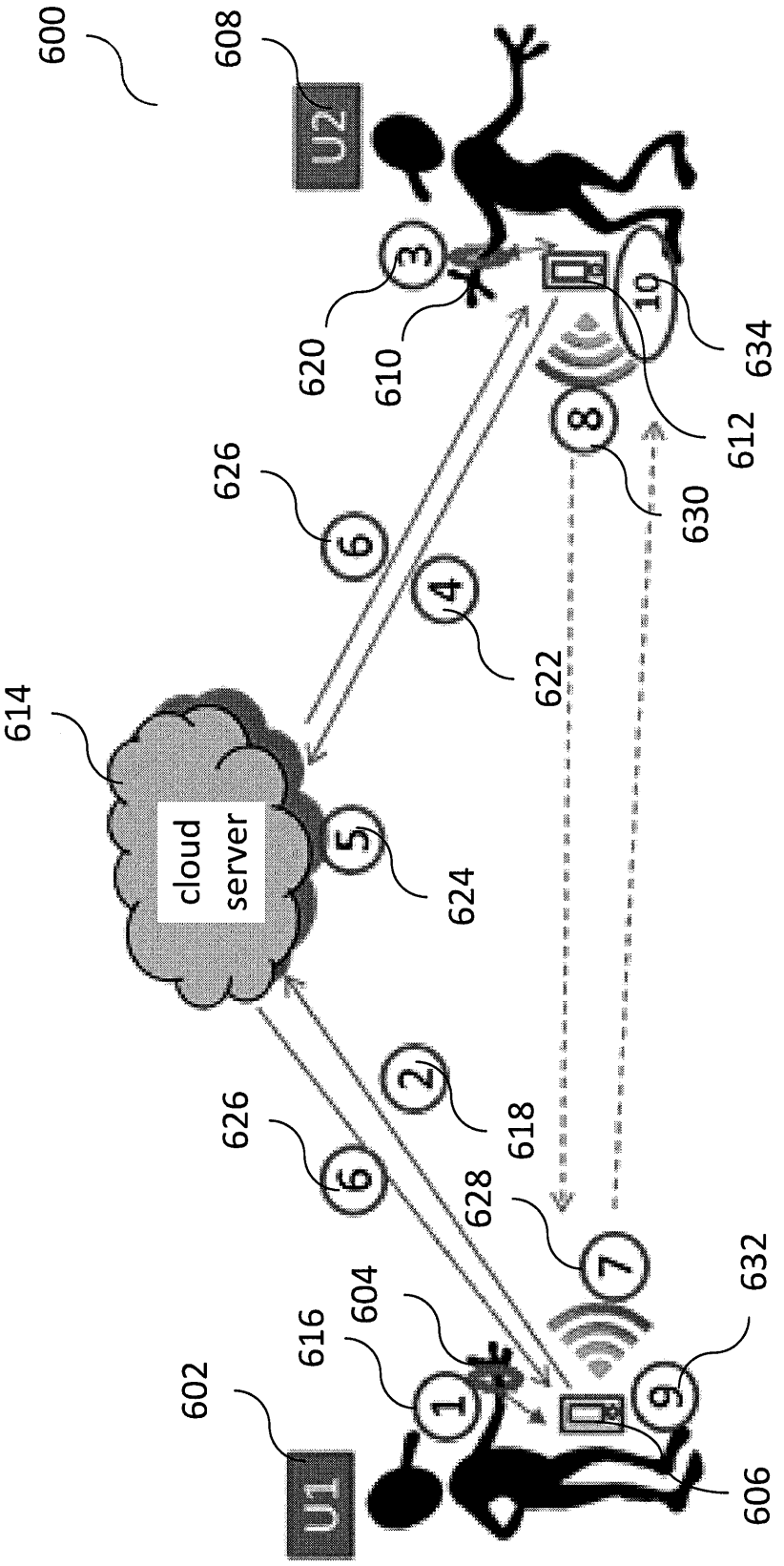
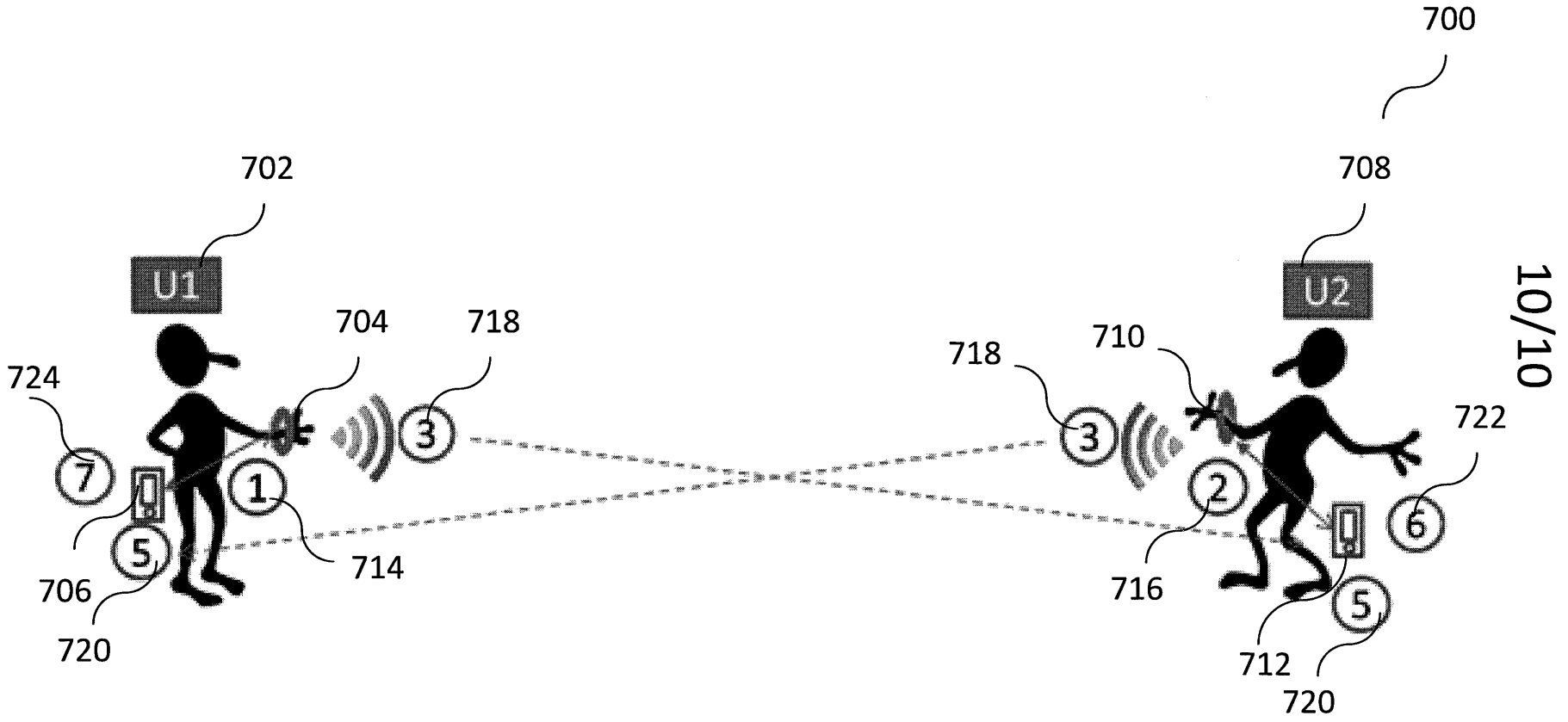

600
608
U2
620
610
612
634
626
630
614
cloud server
622
624
618
628
632
604
616
602
U1
606

FIG 6

FIG 7


700
702
U1
704
718
724
7
1
5
706
720
714
708
U2
718
710
722
3
2
6
716
5
712
720