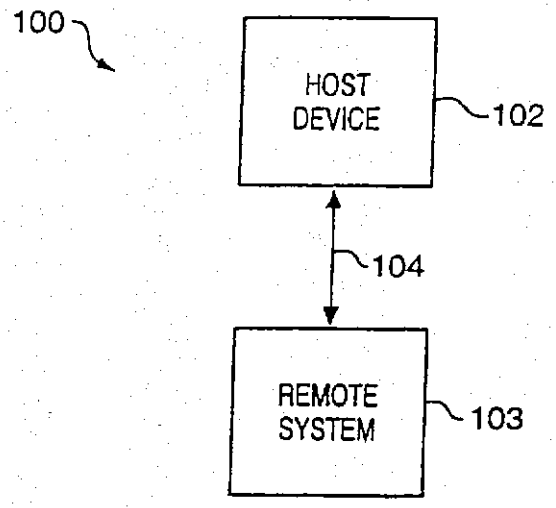

100
HOST DEVICE
102
104
REMOTE SYSTEM
103

FIG. 1

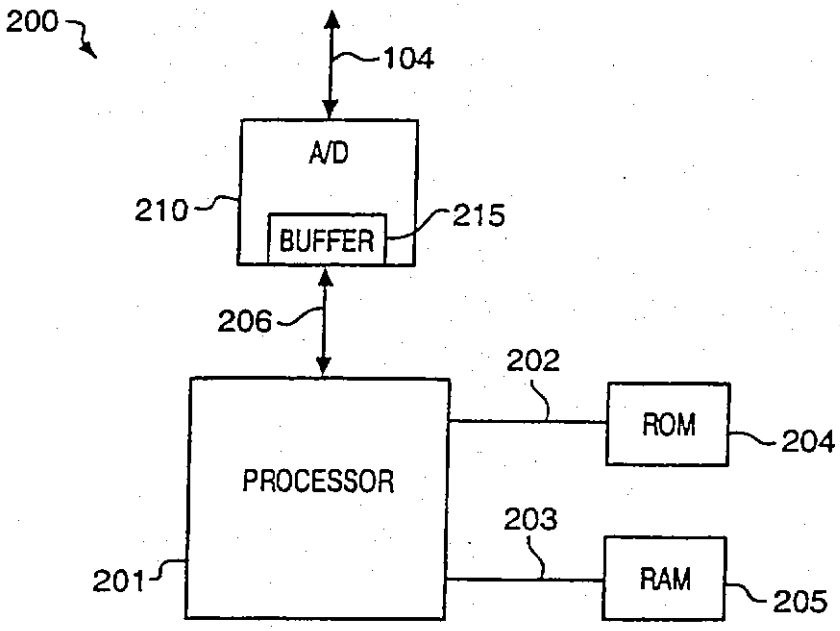

200
104
A/D
210
BUFFER
215
206
202
ROM
204
PROCESSOR
203
201
RAM
205

FIG. 2

FIG. 3

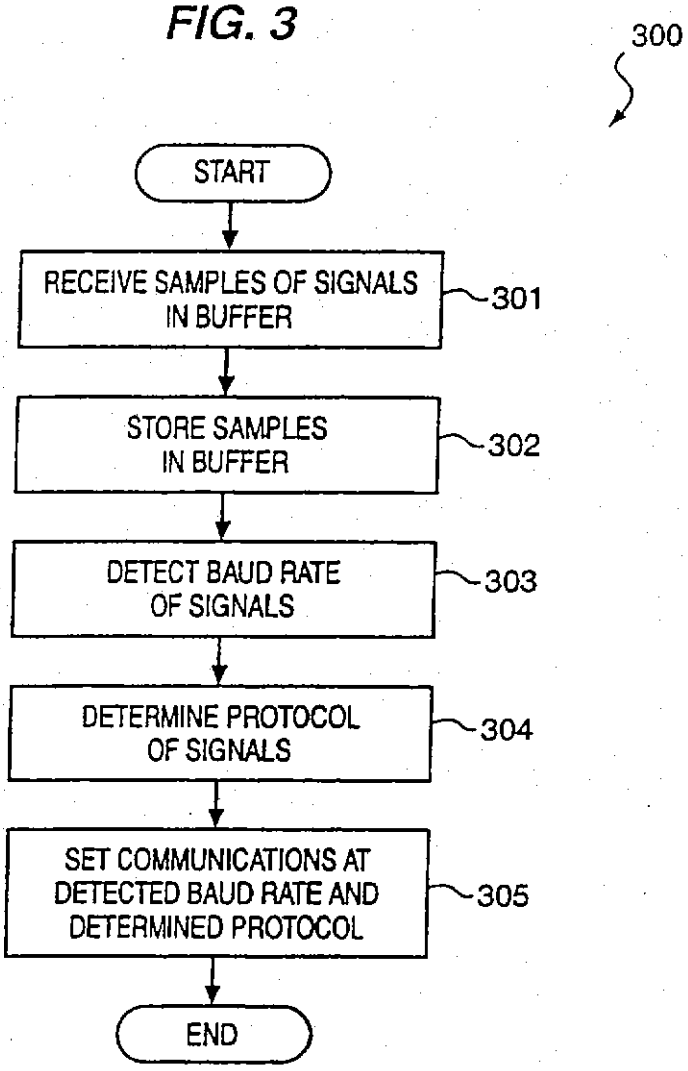

300
START
RECEIVE SAMPLES OF SIGNALS IN BUFFER
301
STORE SAMPLES IN BUFFER
302
DETECT BAUD RATE OF SIGNALS
303
DETERMINE PROTOCOL OF SIGNALS
304
SET COMMUNICATIONS AT DETECTED BAUD RATE AND DETERMINED PROTOCOL
305
END

FIG. 4

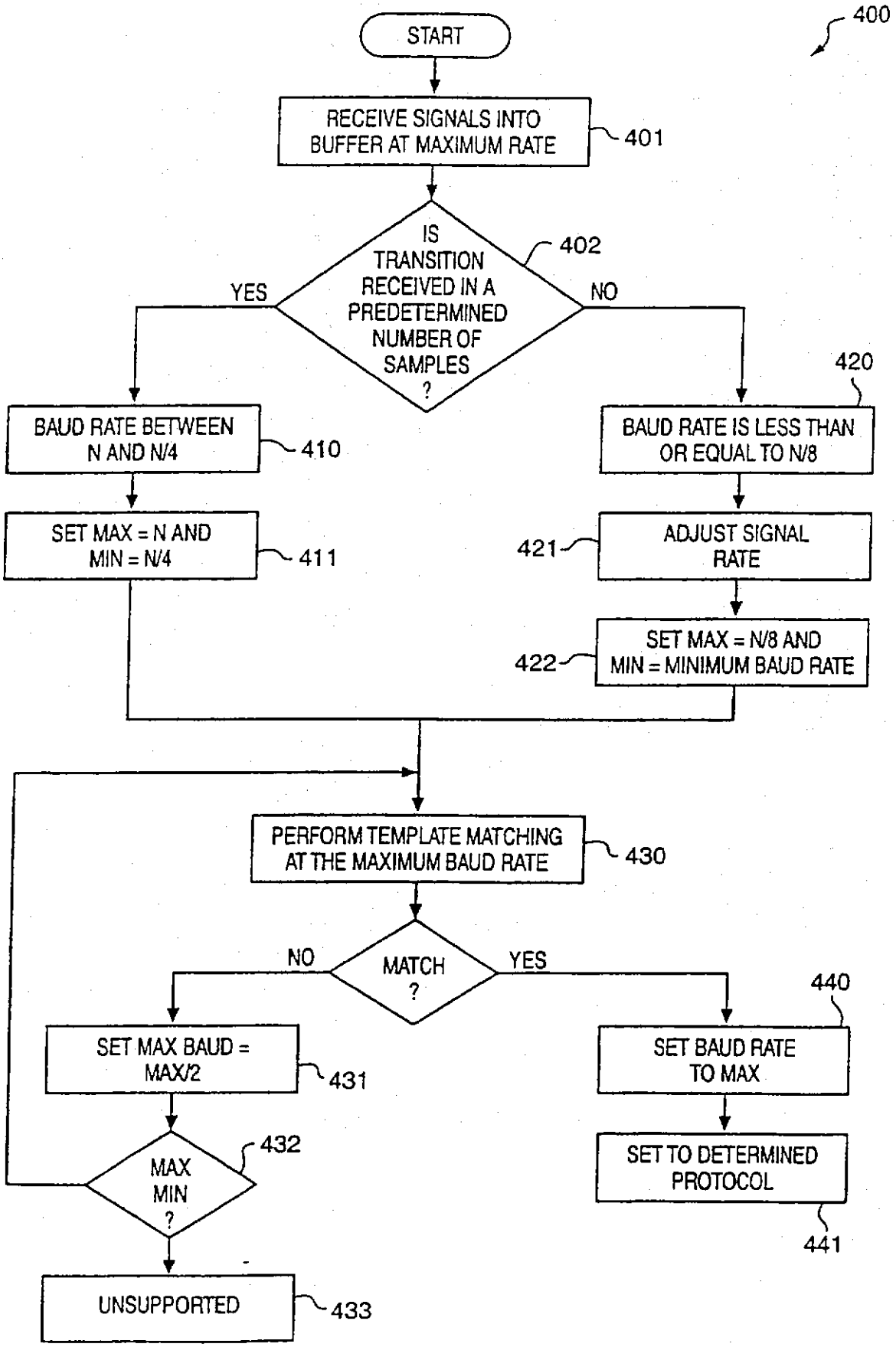
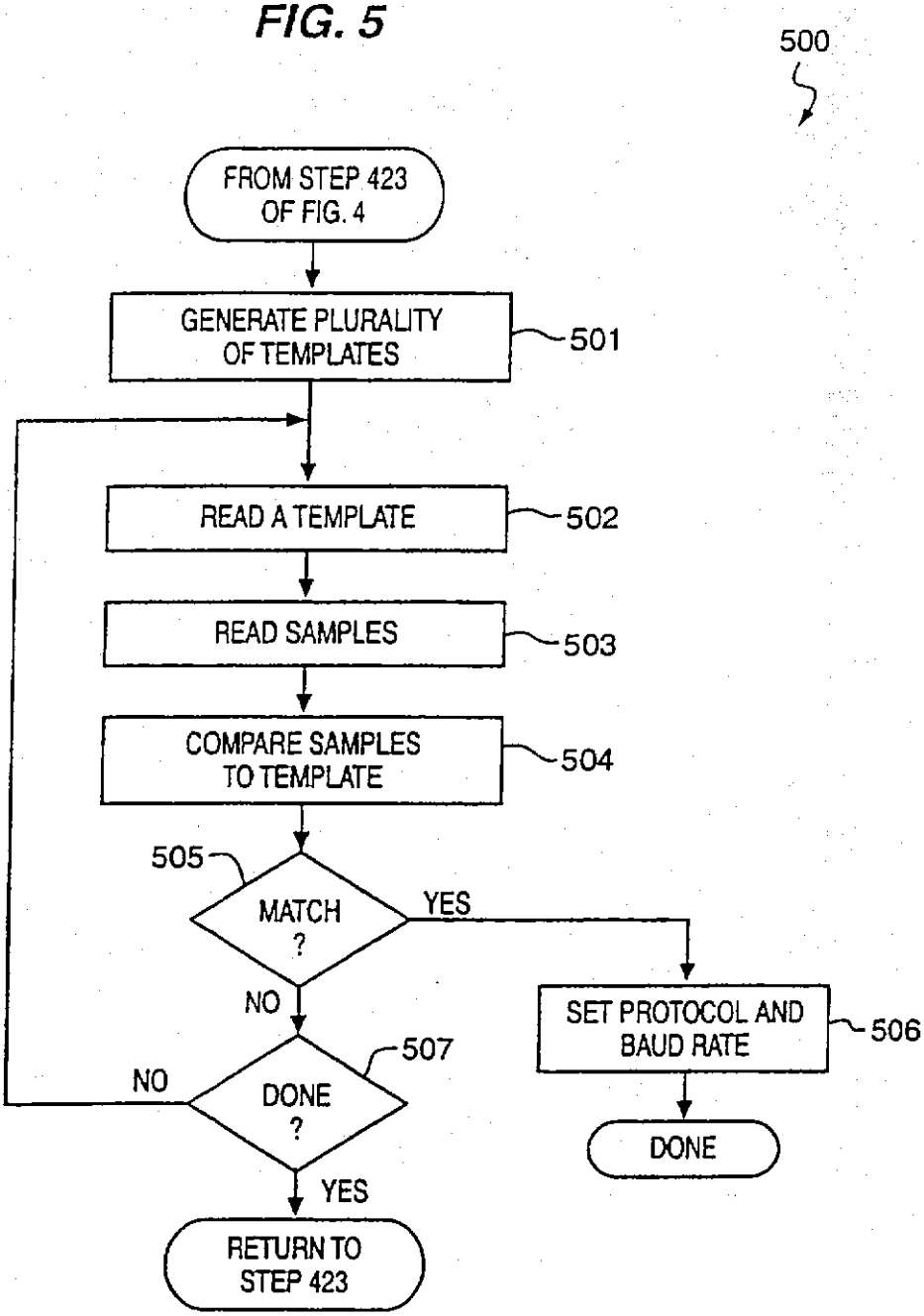

400
START
RECEIVE SIGNALS INTO BUFFER AT MAXIMUM RATE
401
IS TRANSITION RECEIVED IN A PREDETERMINED NUMBER OF SAMPLES ?
402
YES
NO
BAUD RATE BETWEEN N AND N/4
410
SET MAX = N AND MIN = N/4
411
420
BAUD RATE IS LESS THAN OR EQUAL TO N/8
421
ADJUST SIGNAL RATE
422
SET MAX = N/8 AND MIN = MINIMUM BAUD RATE
PERFORM TEMPLATE MATCHING AT THE MAXIMUM BAUD RATE
430
MATCH ?
NO
YES
SET MAX BAUD = MAX/2
431
MAX MIN ?
432
UNSUPPORTED
433
440
SET BAUD RATE TO MAX
SET TO DETERMINED PROTOCOL
441

FIG. 5


500
FROM STEP 423 OF FIG. 4
GENERATE PLURALITY OF TEMPLATES
501
READ A TEMPLATE
502
READ SAMPLES
503
COMPARE SAMPLES TO TEMPLATE
504
505
MATCH ?
YES
NO
SET PROTOCOL AND BAUD RATE
506
DONE
507
NO
DONE ?
YES
RETURN TO STEP 423

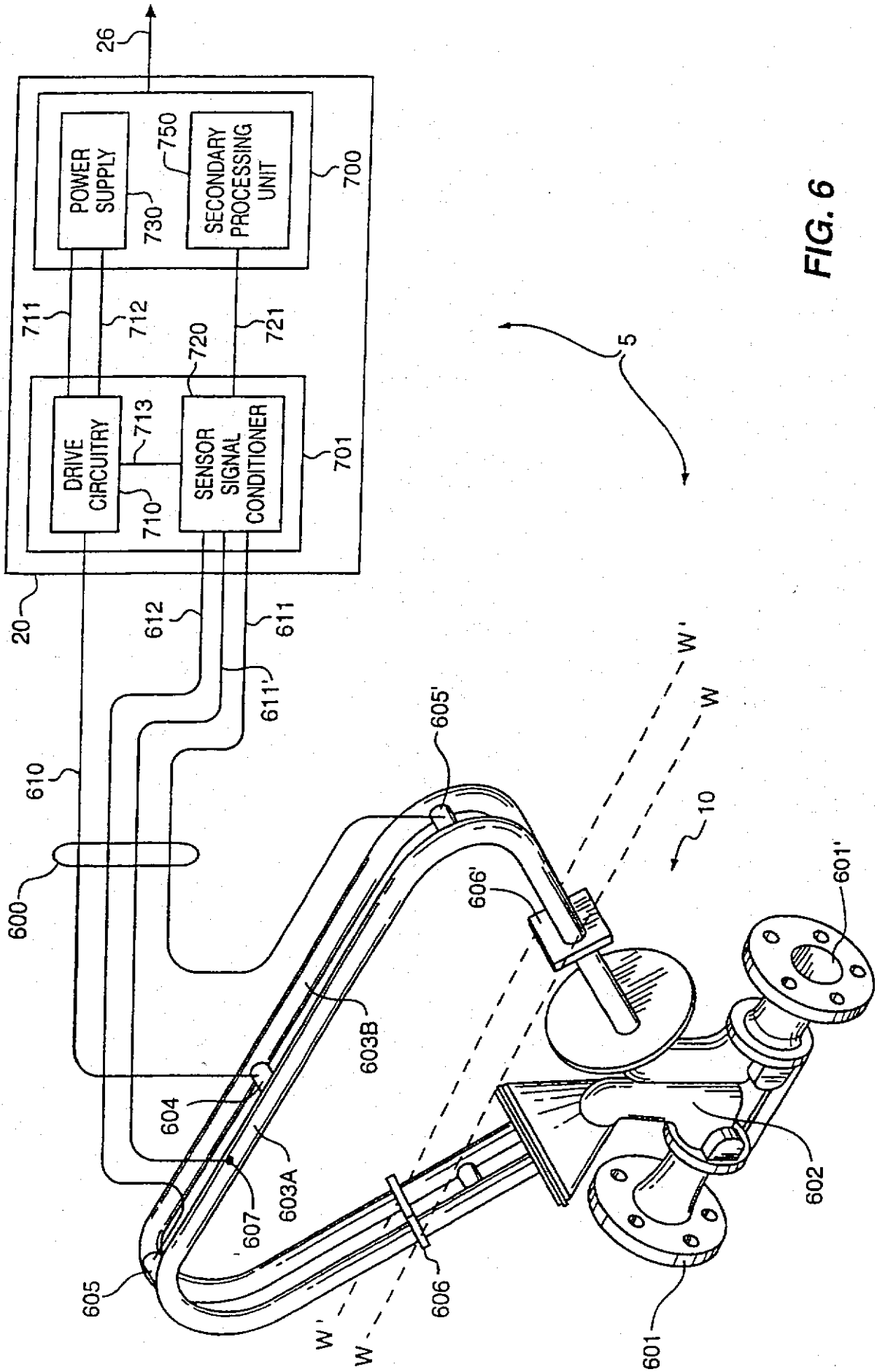
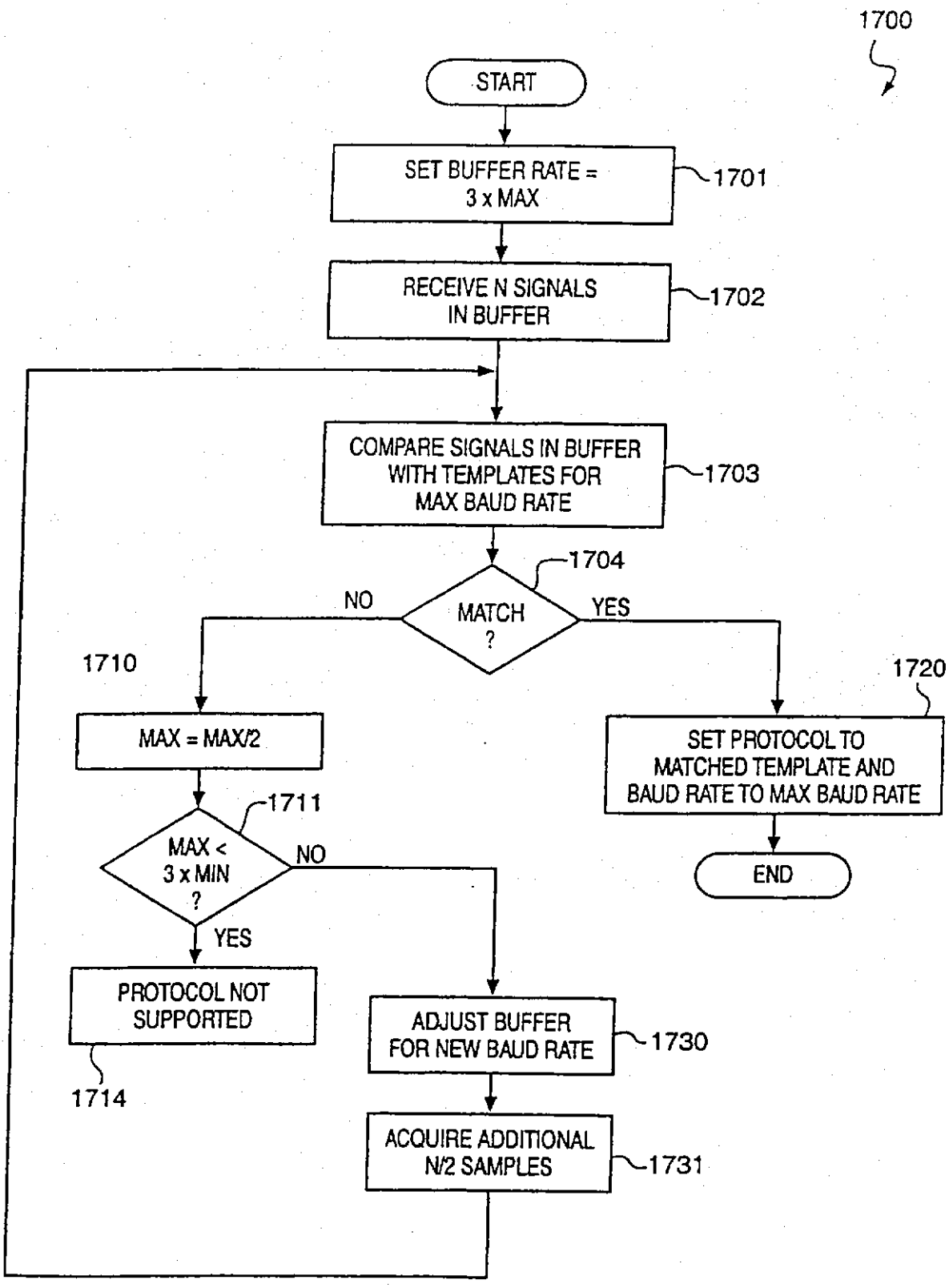

26
POWER SUPPLY
730
750
SECONDARY PROCESSING UNIT
700
711
712
720
721
DRIVE CIRCUITRY
713
710
SENSOR SIGNAL CONDITIONER
701
20
612
611
611'
610
600
605'
W'
W
10
606'
601'
603B
604
603A
607
605
606
602
W'
W
601
5

FIG. 6

FIG. 7


1700
START
SET BUFFER RATE = 3 x MAX
1701
RECEIVE N SIGNALS IN BUFFER
1702
COMPARE SIGNALS IN BUFFER WITH TEMPLATES FOR MAX BAUD RATE
1703
1704
MATCH ?
NO
YES
1710
MAX = MAX/2
1711
MAX < 3 x MIN ?
NO
YES
PROTOCOL NOT SUPPORTED
1714
ADJUST BUFFER FOR NEW BAUD RATE
1730
ACQUIRE ADDITIONAL N/2 SAMPLES
1731
1720
SET PROTOCOL TO MATCHED TEMPLATE AND BAUD RATE TO MAX BAUD RATE
END