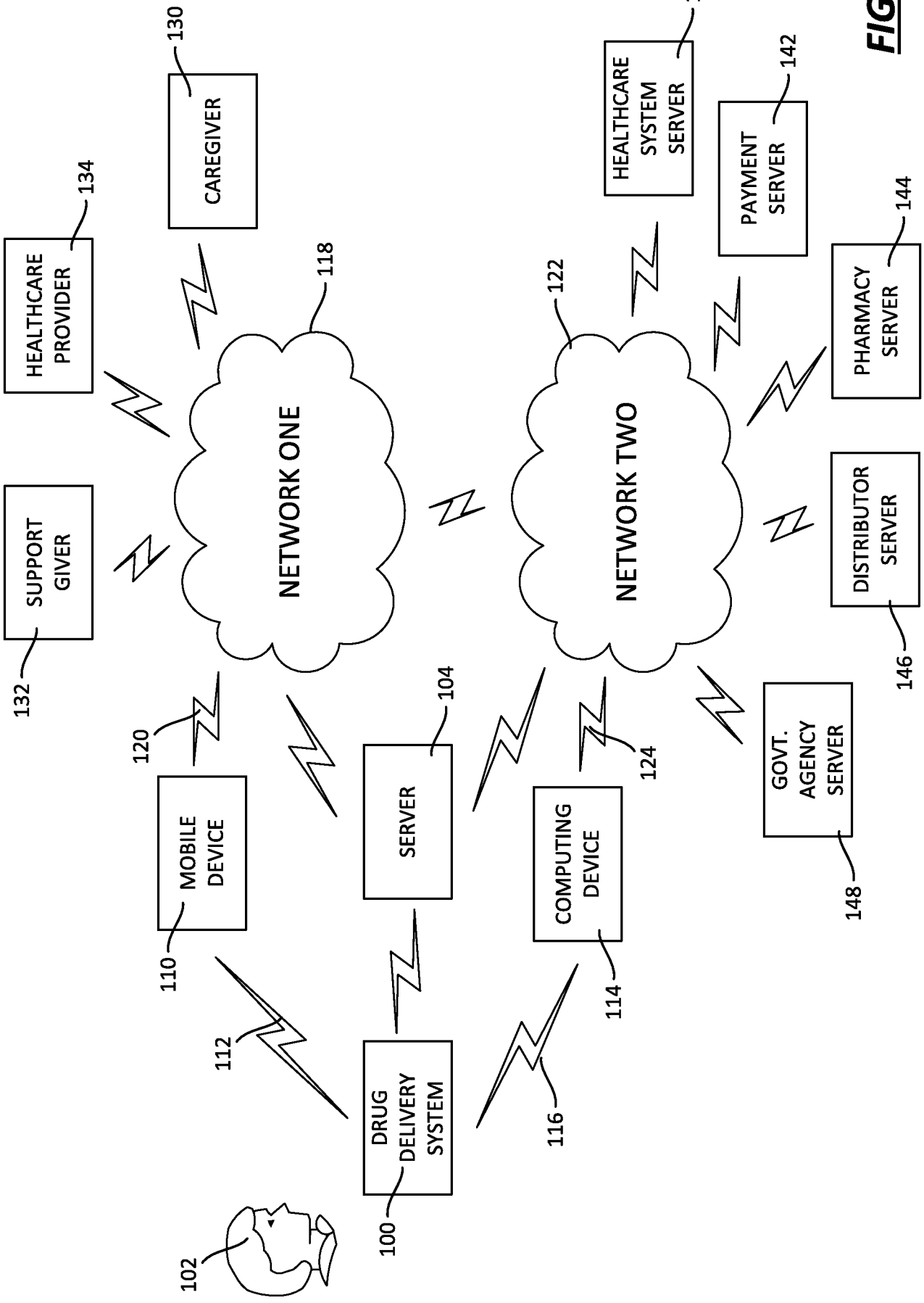
HEALTHCARE PROVIDER
134
CAREGIVER
130
HEALTHCARE SYSTEM SERVER
140
PAYMENT SERVER
142
PHARMACY SERVER
144
SUPPORT GIVER
132
NETWORK ONE
118
NETWORK TWO
122
DISTRIBUTOR SERVER
146
120
MOBILE DEVICE
110
SERVER
104
COMPUTING DEVICE
114
124
GOVT. AGENCY SERVER
148
112
DRUG DELIVERY SYSTEM
100
116
102

FIG. 1

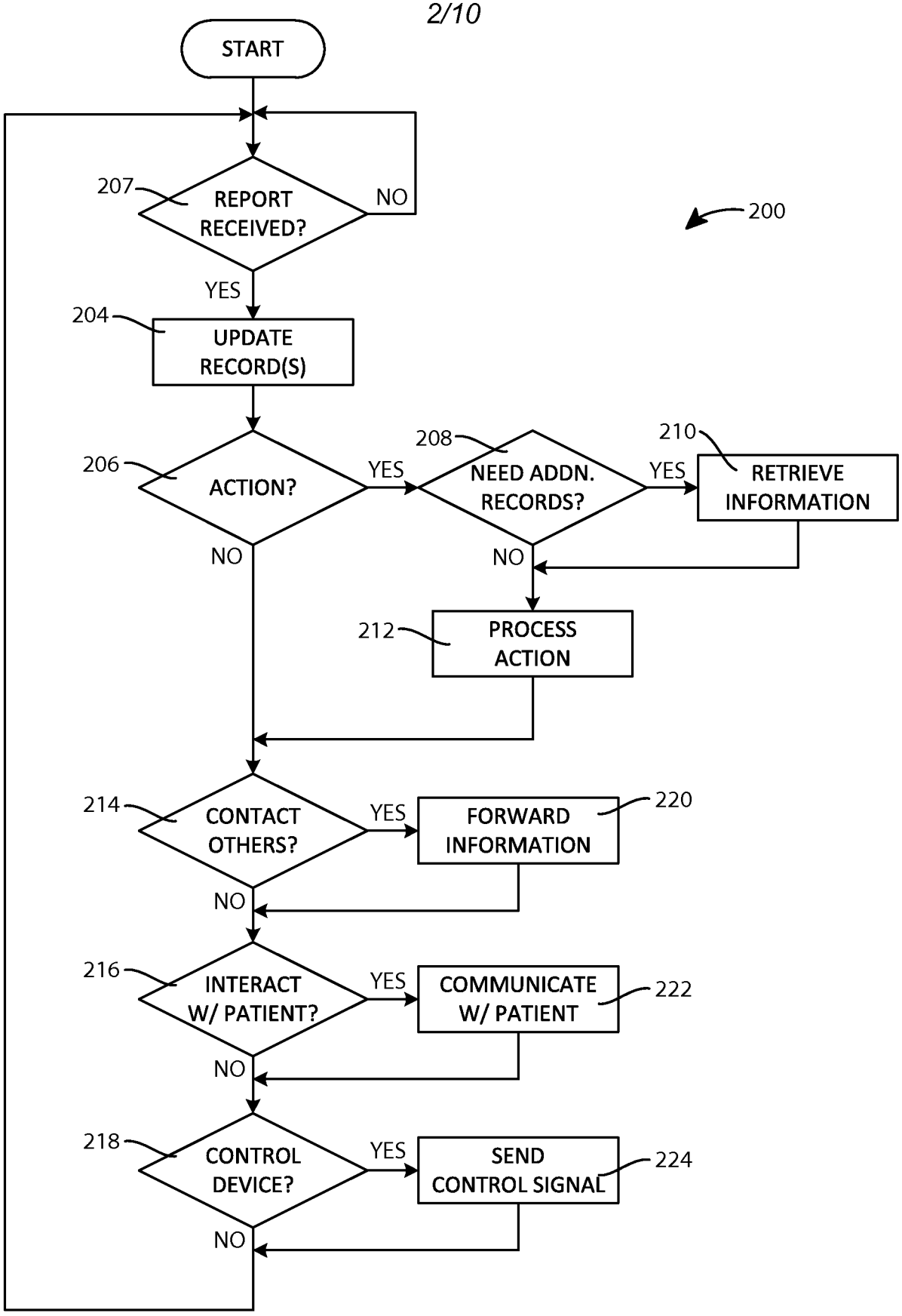
START
207
REPORT RECEIVED?
NO
YES
200
204
UPDATE RECORD(S)
206
ACTION?
YES
208
NEED ADDN. RECORDS?
YES
210
RETRIEVE INFORMATION
NO
NO
212
PROCESS ACTION
214
CONTACT OTHERS?
YES
FORWARD INFORMATION
220
NO
216
INTERACT W/ PATIENT?
YES
COMMUNICATE W/ PATIENT
222
NO
218
CONTROL DEVICE?
YES
SEND CONTROL SIGNAL
224
NO

FIG. 2

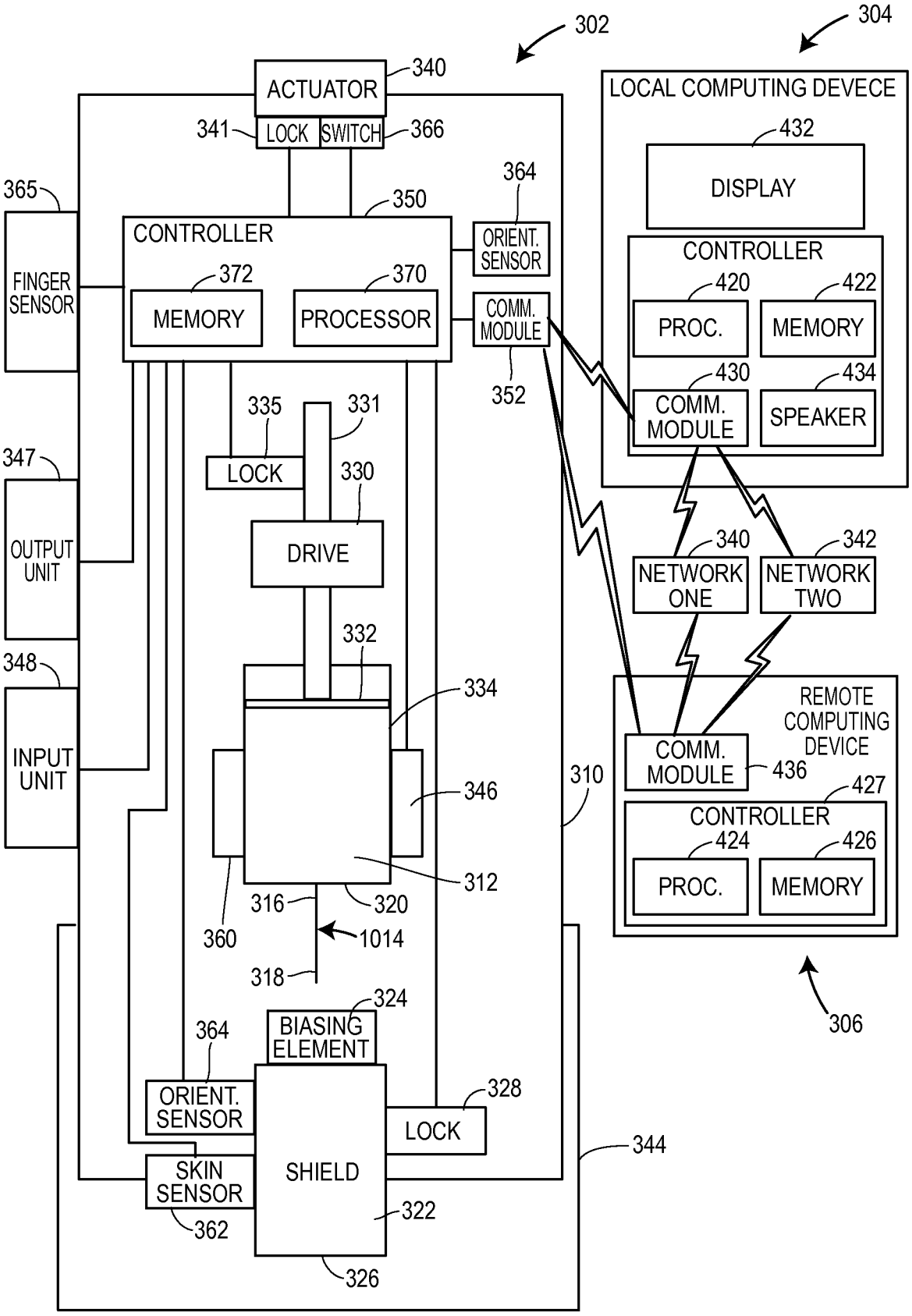
302
304
ACTUATOR
340
341
LOCK
SWITCH
366
364
365
350
CONTROLLER
ORIENT. SENSOR
FINGER SENSOR
372
370
MEMORY
PROCESSOR
COMM. MODULE
352
335
331
LOCK
330
347
OUTPUT UNIT
DRIVE
332
348
334
INPUT UNIT
346
312
316
320
360
1014
318
324
BIASING ELEMENT
364
ORIENT. SENSOR
328
LOCK
SKIN SENSOR
SHIELD
322
362
326
344
310
LOCAL COMPUTING DEVECE
432
DISPLAY
CONTROLLER
420
422
PROC.
MEMORY
430
434
COMM. MODULE
SPEAKER
340
342
NETWORK ONE
NETWORK TWO
REMOTE COMPUTING DEVICE
COMM. MODULE
436
427
CONTROLLER
424
426
PROC.
MEMORY
306

FIG. 3

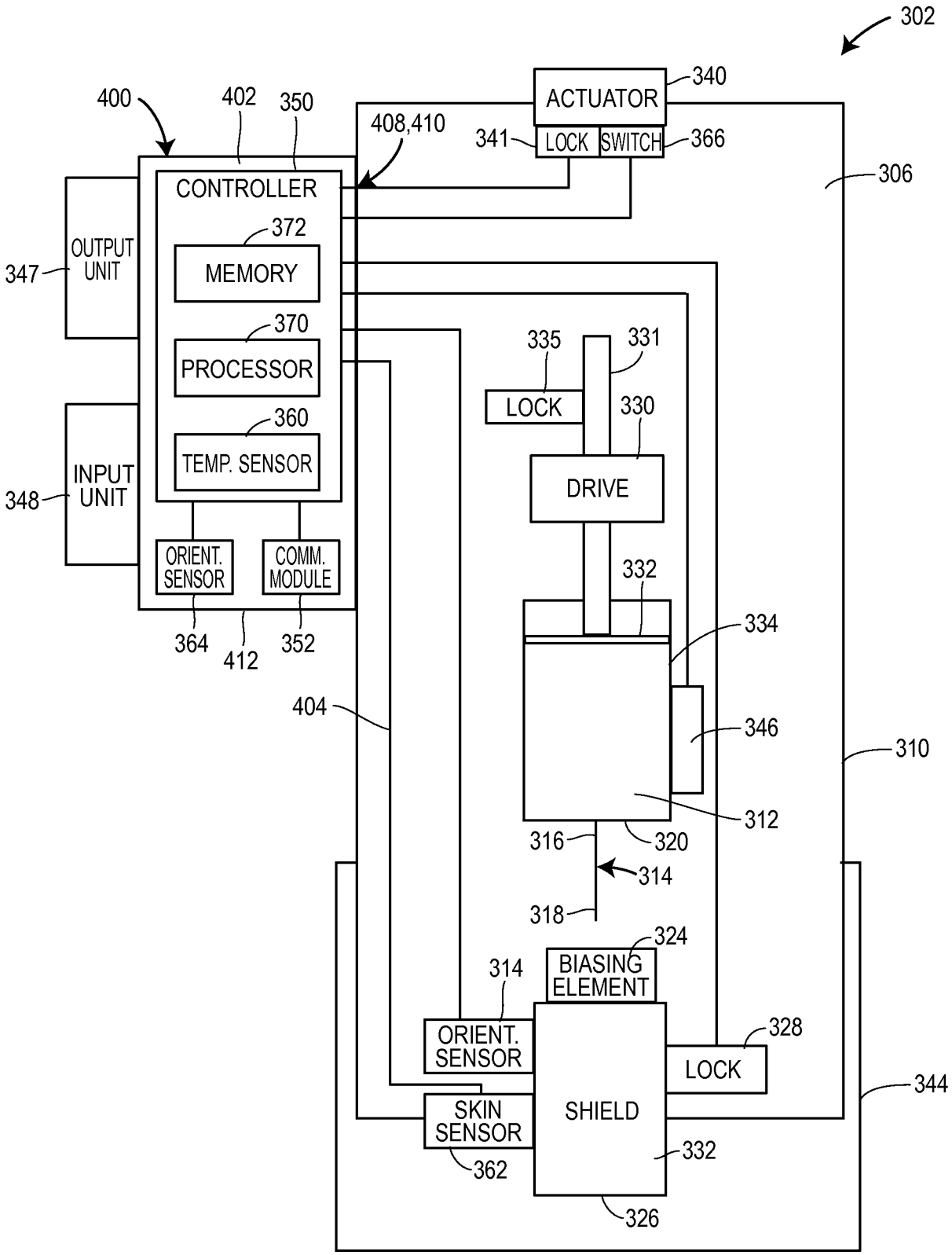
302
400
402
350
408,410
ACTUATOR
340
341
LOCK
SWITCH
366
306
CONTROLLER
372
MEMORY
OUTPUT UNIT
347
370
PROCESSOR
360
TEMP. SENSOR
INPUT UNIT
348
ORIENT. SENSOR
COMM. MODULE
364
412
352
335
331
LOCK
330
DRIVE
332
334
404
346
310
312
316
320
314
318
324
BIASING ELEMENT
314
ORIENT. SENSOR
328
LOCK
344
SKIN SENSOR
SHIELD
362
332
326

FIG. 4

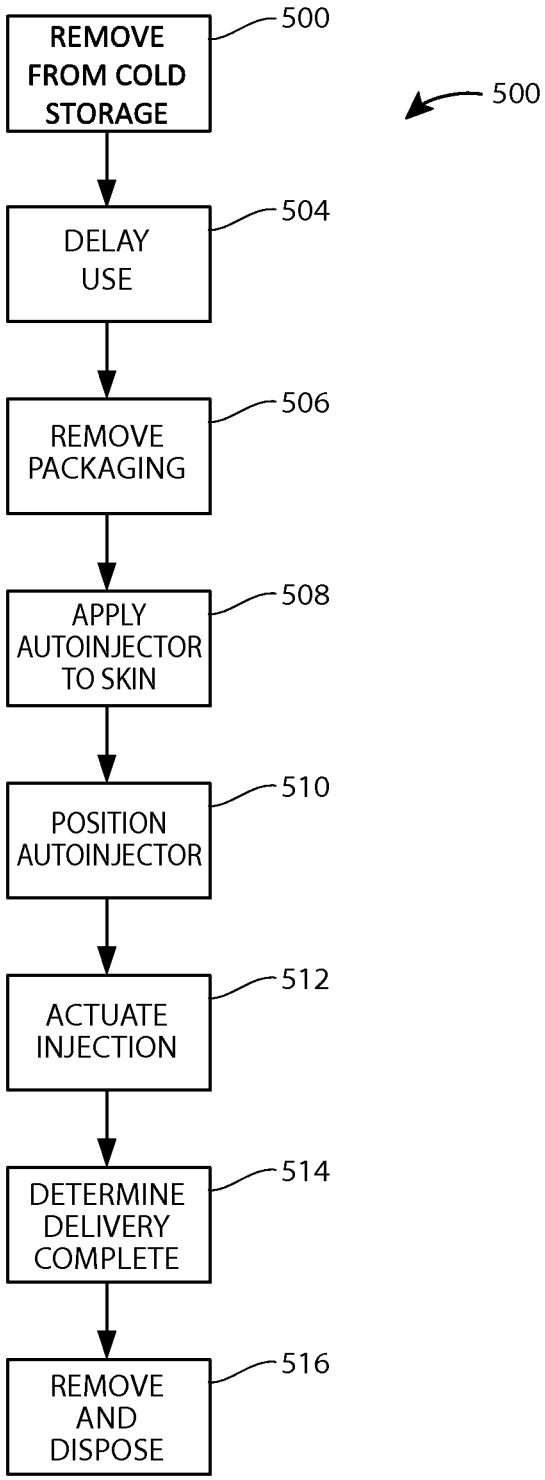
REMOVE FROM COLD STORAGE
500
500
DELAY USE
504
REMOVE PACKAGING
506
APPLY AUTOINJECTOR TO SKIN
508
POSITION AUTOINJECTOR
510
ACTUATE INJECTION
512
DETERMINE DELIVERY COMPLETE
514
REMOVE AND DISPOSE
516

FIG. 5

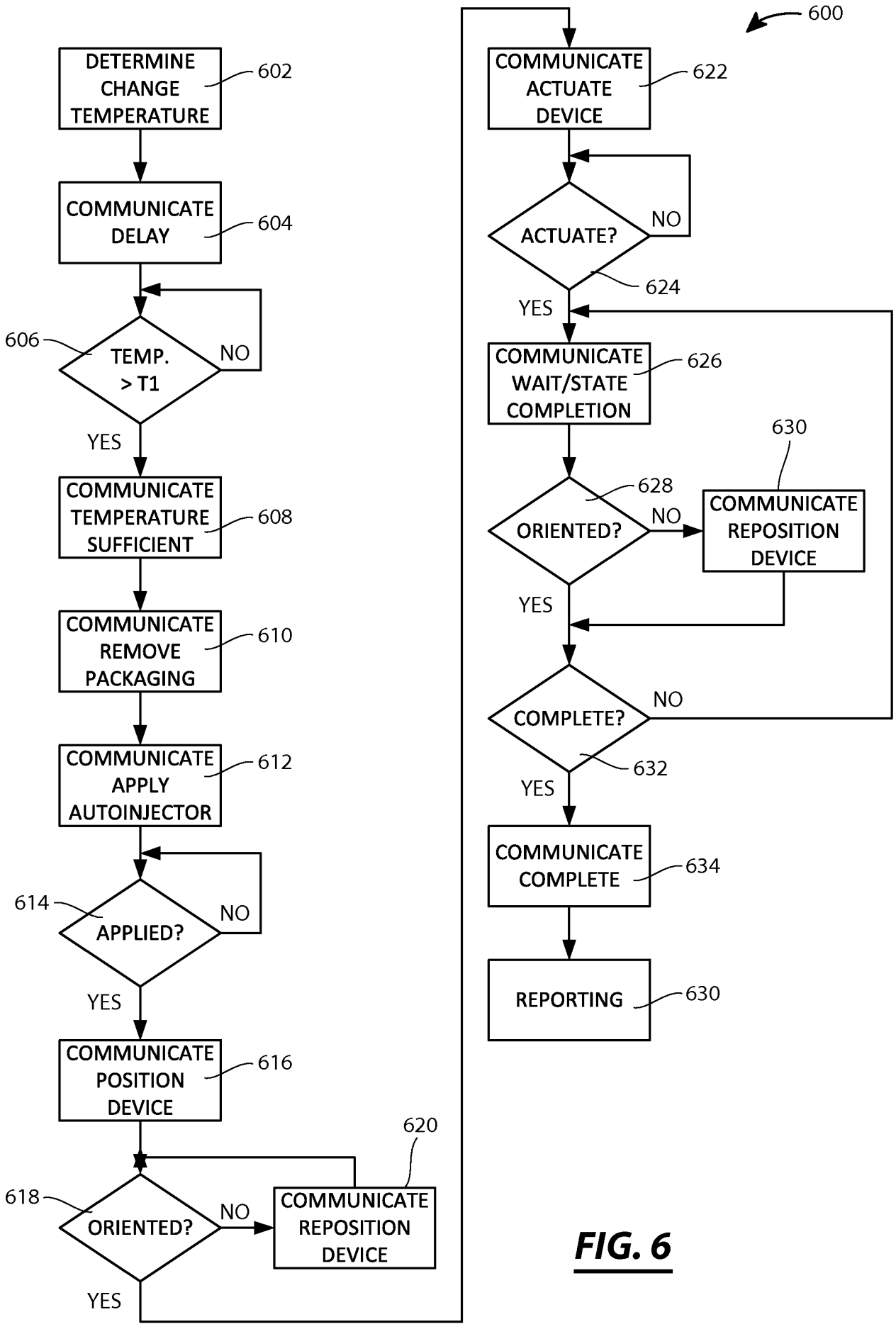
600
DETERMINE CHANGE TEMPERATURE
602
COMMUNICATE DELAY
604
606
TEMP. > T1
NO
YES
COMMUNICATE TEMPERATURE SUFFICIENT
608
COMMUNICATE REMOVE PACKAGING
610
COMMUNICATE APPLY AUTOINJECTOR
612
614
APPLIED?
NO
YES
COMMUNICATE POSITION DEVICE
616
620
618
ORIENTED?
NO
COMMUNICATE REPOSITION DEVICE
YES
COMMUNICATE ACTUATE DEVICE
622
ACTUATE?
NO
624
YES
COMMUNICATE WAIT/STATE COMPLETION
626
630
628
ORIENTED?
NO
COMMUNICATE REPOSITION DEVICE
YES
COMPLETE?
NO
632
YES
COMMUNICATE COMPLETE
634
REPORTING
630

FIG. 6

FIG. 7

FIG. 8

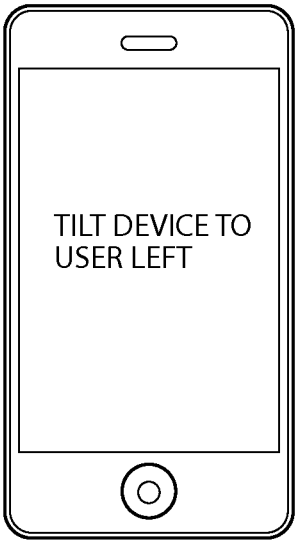

FIG. 9

FIG. 10

FIG. 11

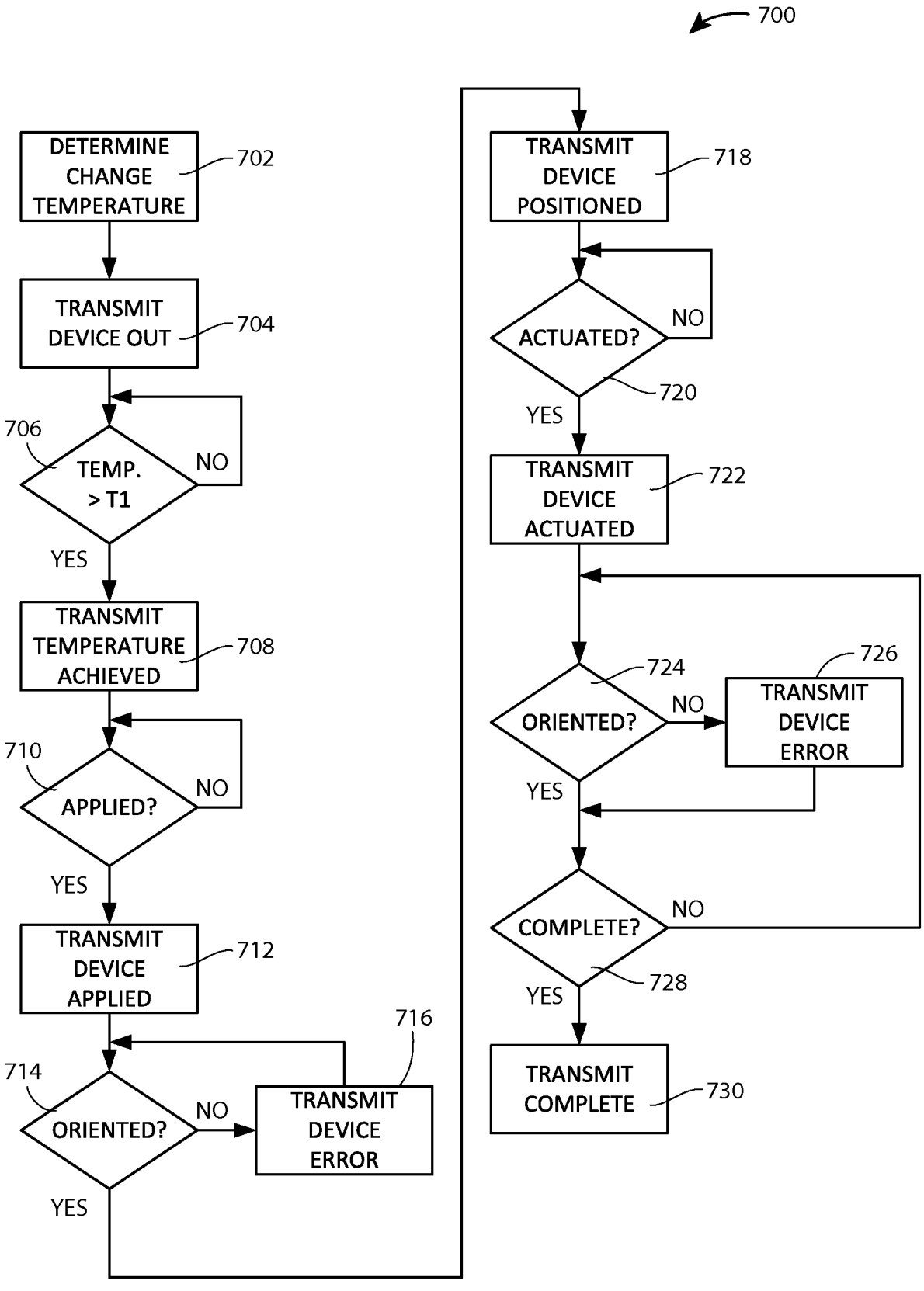
700
DETERMINE CHANGE TEMPERATURE
702
TRANSMIT DEVICE OUT
704
706
TEMP. > T1
NO
YES
TRANSMIT TEMPERATURE ACHIEVED
708
710
APPLIED?
NO
YES
TRANSMIT DEVICE APPLIED
712
716
714
ORIENTED?
NO
TRANSMIT DEVICE ERROR
YES
TRANSMIT DEVICE POSITIONED
718
ACTUATED?
NO
720
YES
TRANSMIT DEVICE ACTUATED
722
724
ORIENTED?
NO
726
TRANSMIT DEVICE ERROR
YES
COMPLETE?
NO
728
YES
TRANSMIT COMPLETE
730

FIG. 12

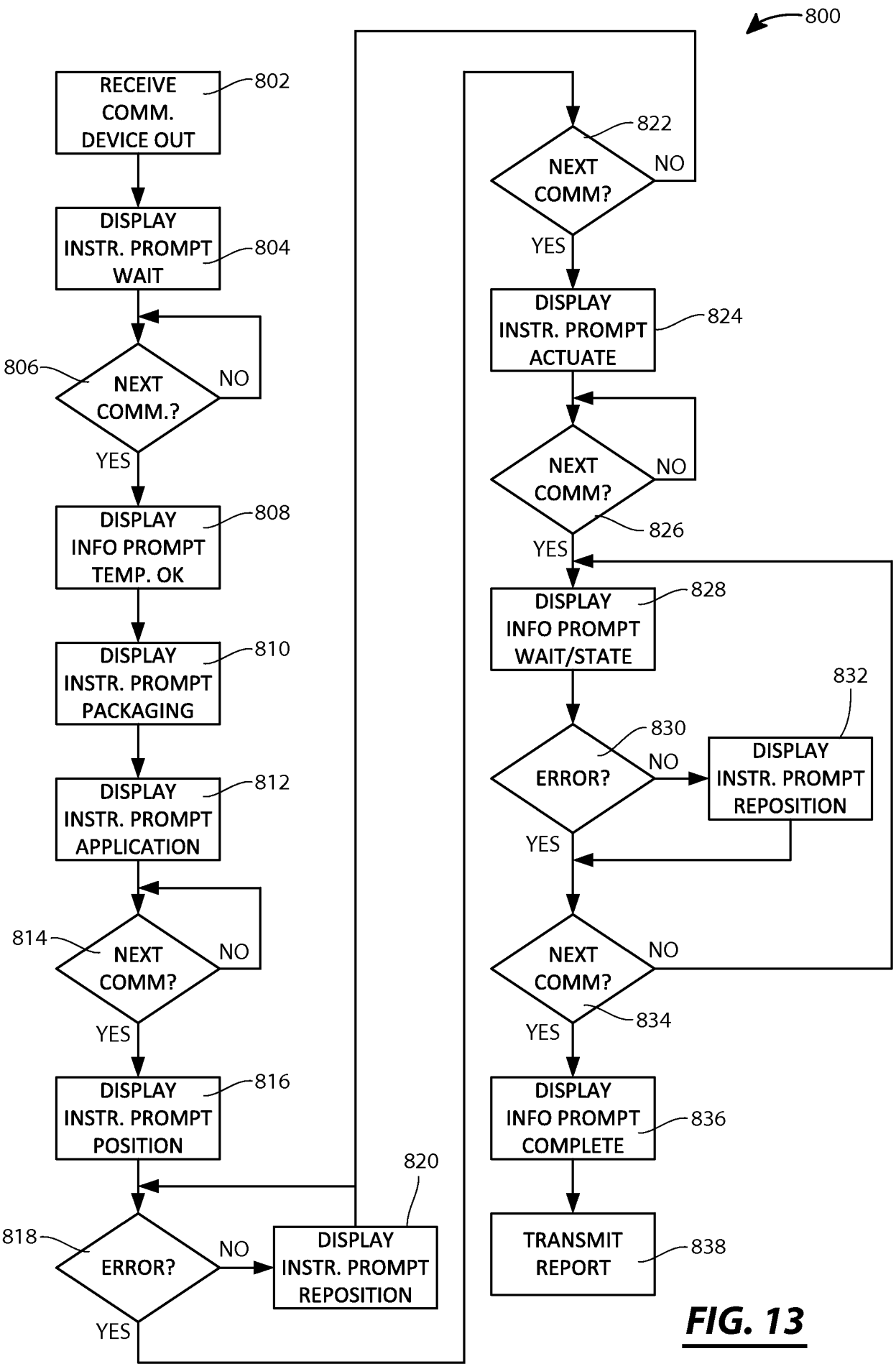
800
RECEIVE COMM. DEVICE OUT
802
DISPLAY INSTR. PROMPT WAIT
804
NEXT COMM.?
806
NO
YES
DISPLAY INFO PROMPT TEMP. OK
808
DISPLAY INSTR. PROMPT PACKAGING
810
DISPLAY INSTR. PROMPT APPLICATION
812
NEXT COMM?
814
NO
YES
DISPLAY INSTR. PROMPT POSITION
816
ERROR?
818
NO
YES
DISPLAY INSTR. PROMPT REPOSITION
820
NEXT COMM?
822
NO
YES
DISPLAY INSTR. PROMPT ACTUATE
824
NEXT COMM?
826
NO
YES
DISPLAY INFO PROMPT WAIT/STATE
828
ERROR?
830
NO
DISPLAY INSTR. PROMPT REPOSITION
832
YES
NEXT COMM?
834
NO
YES
DISPLAY INFO PROMPT COMPLETE
836
TRANSMIT REPORT
838

FIG. 13

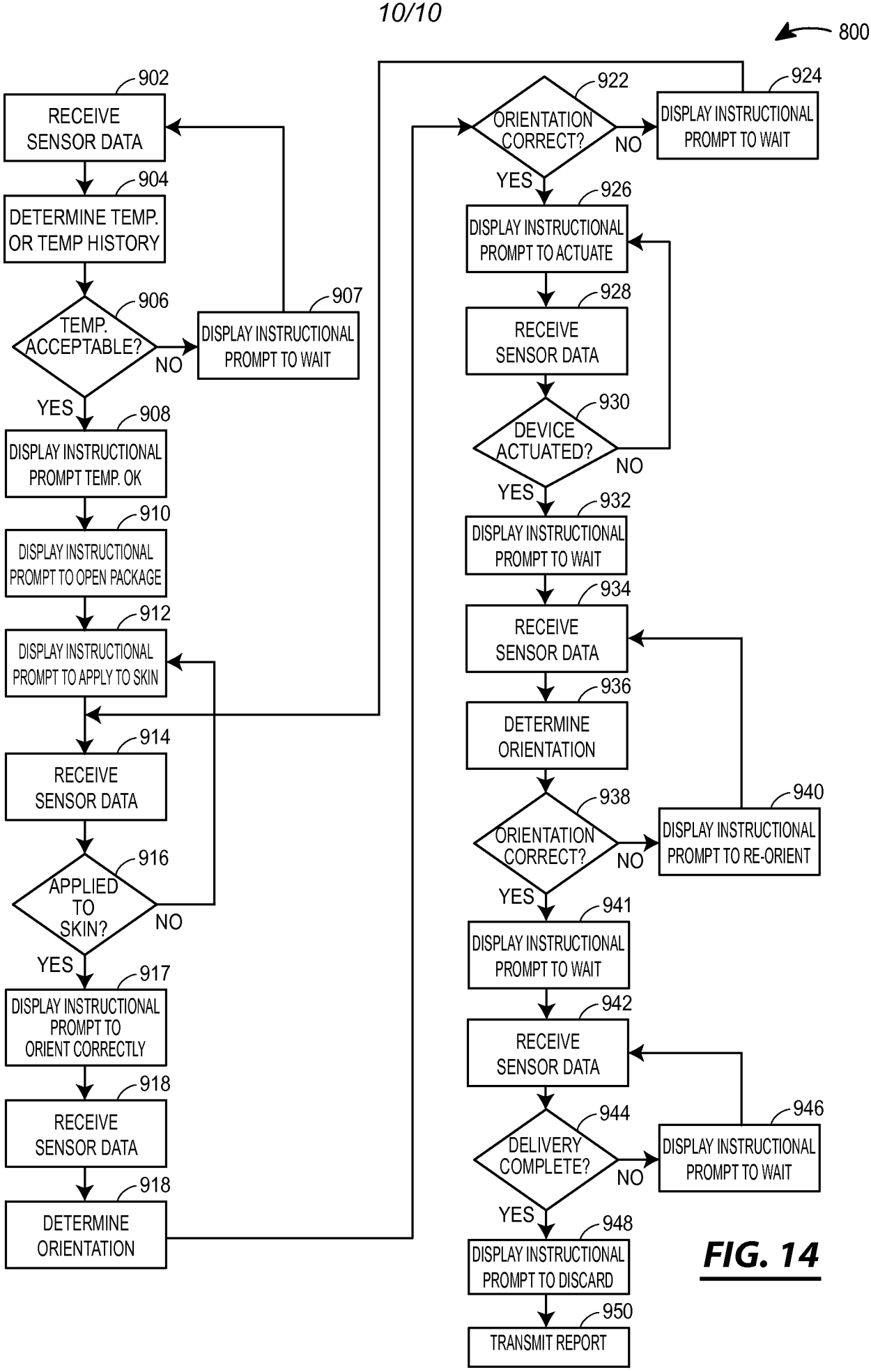
800
902
RECEIVE SENSOR DATA
904
DETERMINE TEMP. OR TEMP HISTORY
906
TEMP. ACCEPTABLE?
NO
907
DISPLAY INSTRUCTIONAL PROMPT TO WAIT
YES
908
DISPLAY INSTRUCTIONAL PROMPT TEMP. OK
910
DISPLAY INSTRUCTIONAL PROMPT TO OPEN PACKAGE
912
DISPLAY INSTRUCTIONAL PROMPT TO APPLY TO SKIN
914
RECEIVE SENSOR DATA
916
APPLIED TO SKIN?
NO
YES
917
DISPLAY INSTRUCTIONAL PROMPT TO ORIENT CORRECTLY
918
RECEIVE SENSOR DATA
918
DETERMINE ORIENTATION
922
ORIENTATION CORRECT?
NO
924
DISPLAY INSTRUCTIONAL PROMPT TO WAIT
YES
926
DISPLAY INSTRUCTIONAL PROMPT TO ACTUATE
928
RECEIVE SENSOR DATA
930
DEVICE ACTUATED?
NO
YES
932
DISPLAY INSTRUCTIONAL PROMPT TO WAIT
934
RECEIVE SENSOR DATA
936
DETERMINE ORIENTATION
938
ORIENTATION CORRECT?
NO
940
DISPLAY INSTRUCTIONAL PROMPT TO RE-ORIENT
YES
941
DISPLAY INSTRUCTIONAL PROMPT TO WAIT
942
RECEIVE SENSOR DATA
944
DELIVERY COMPLETE?
NO
946
DISPLAY INSTRUCTIONAL PROMPT TO WAIT
YES
948
DISPLAY INSTRUCTIONAL PROMPT TO DISCARD
950
TRANSMIT REPORT

FIG. 14