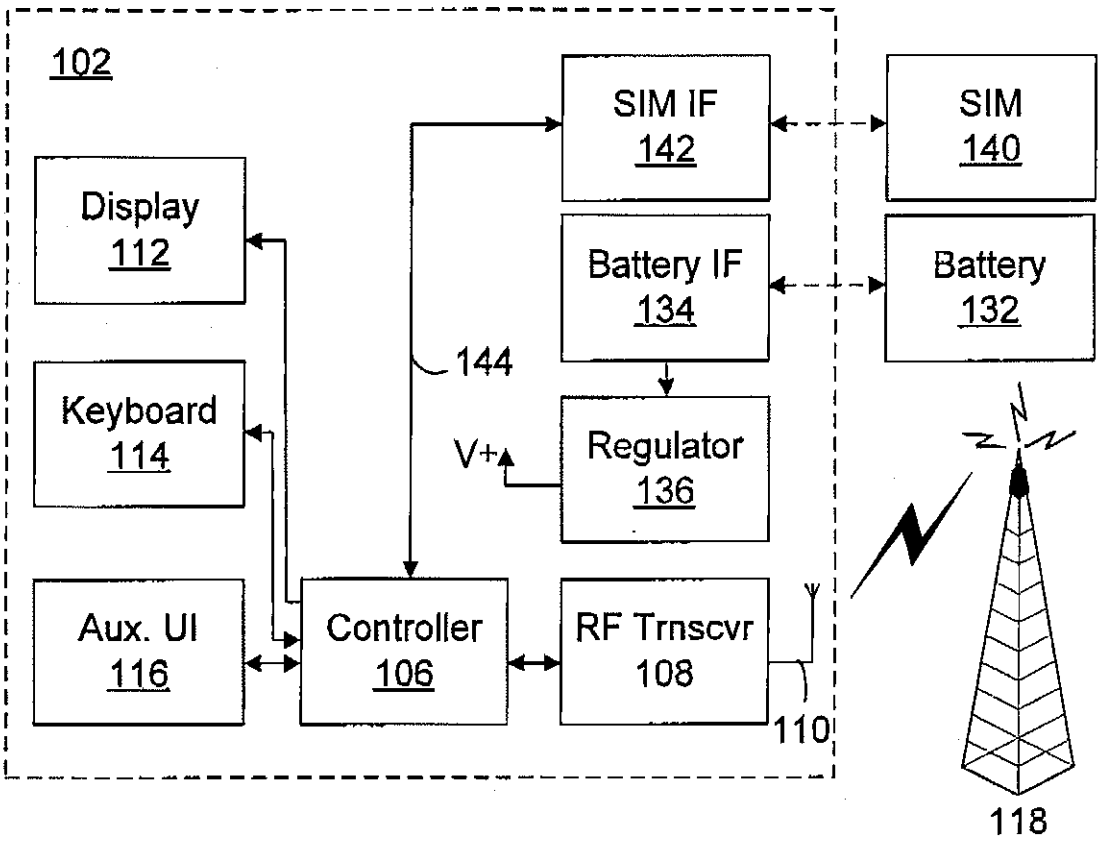

102
SIM IF
142
SIM
140
Display
112
Battery IF
134
Battery
132
144
Keyboard
114
V+
Regulator
136
Aux. UI
116
Controller
106
RF Trnscvr
108
110
118

FIG. 1

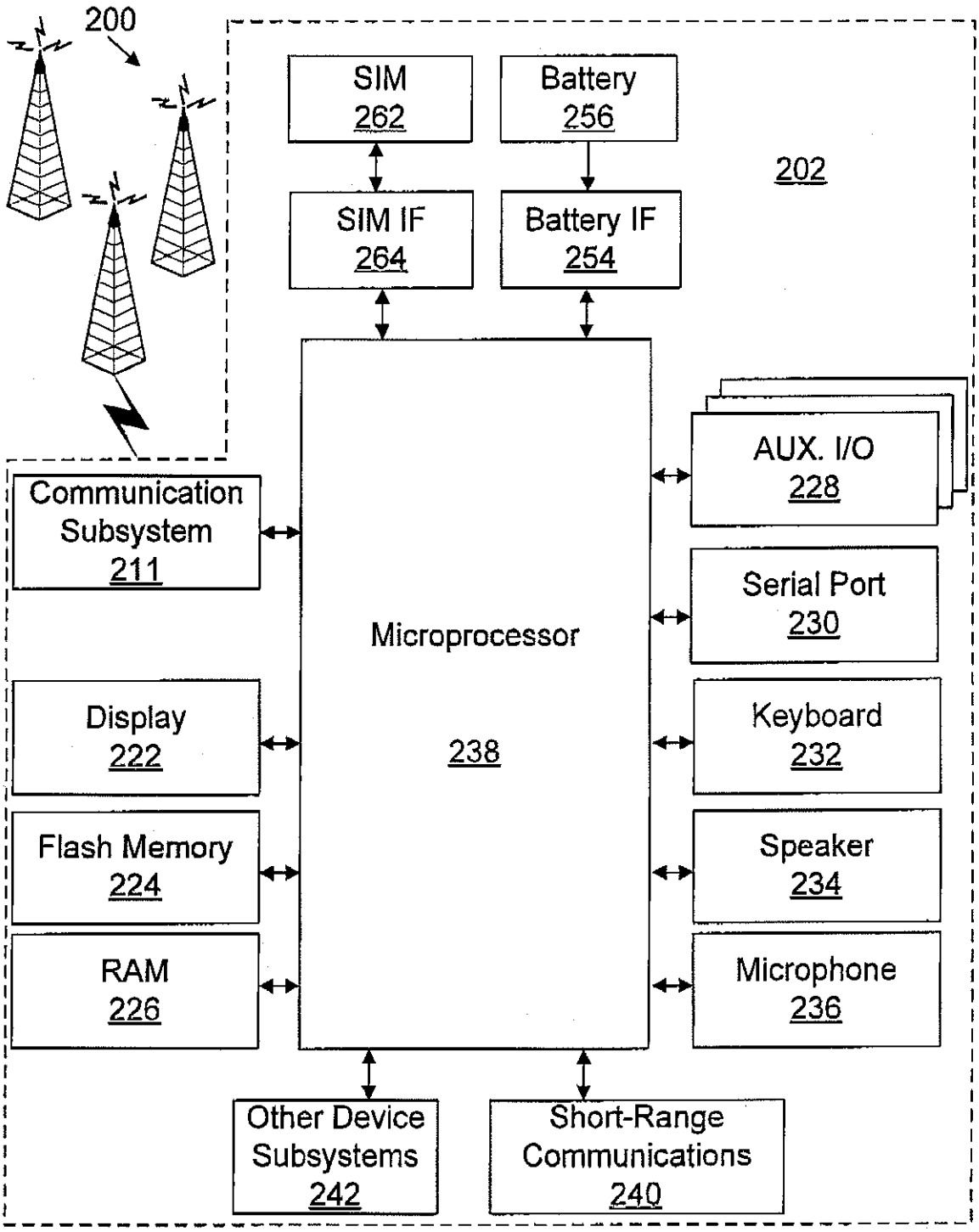

200
SIM
262
Battery
256
202
SIM IF
264
Battery IF
254
AUX. I/O
228
Communication
Subsystem
211
Serial Port
230
Microprocessor
238
Display
222
Keyboard
232
Flash Memory
224
Speaker
234
RAM
226
Microphone
236
Other Device
Subsystems
242
Short-Range
Communications
240

FIG. 2

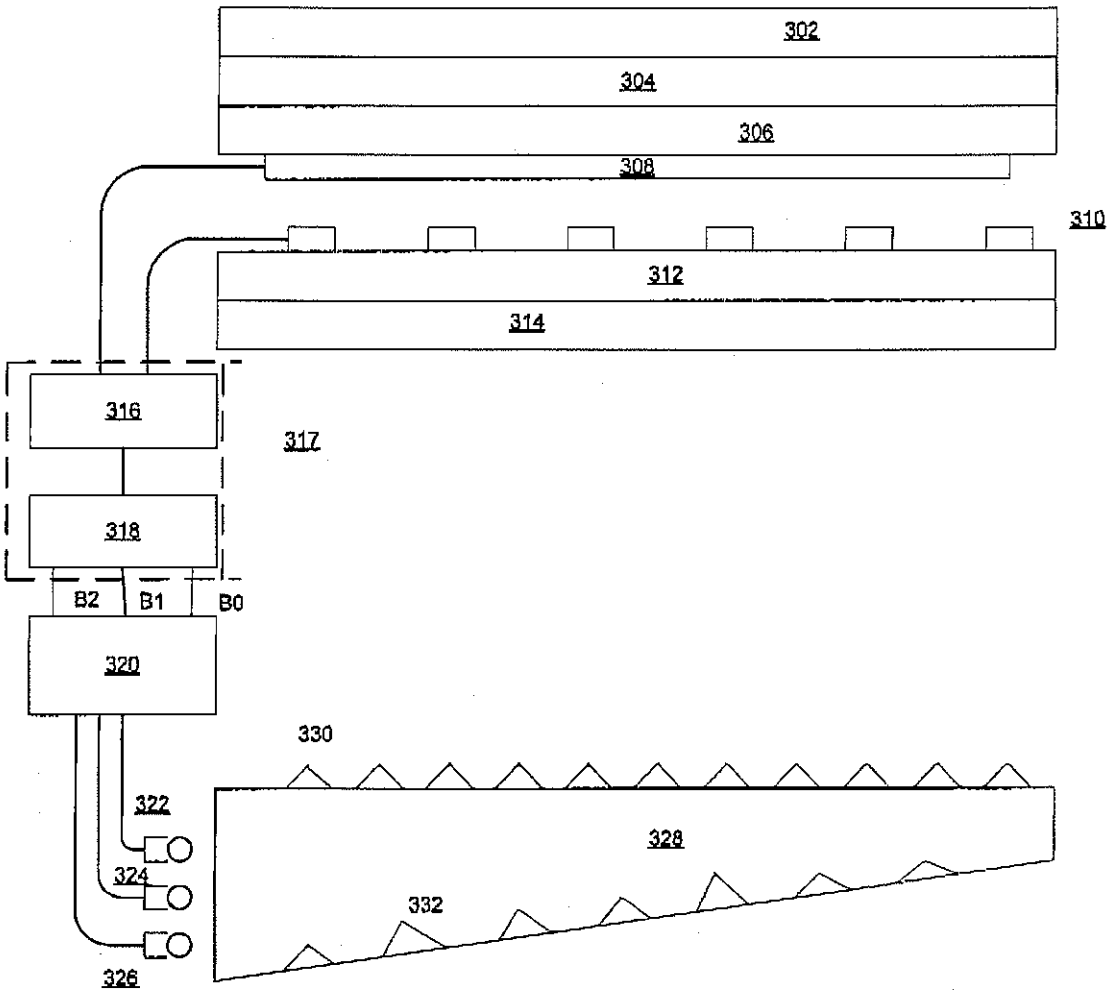

302
304
306
308
310
312
314
316
317
318
B2
B1
B0
320
330
322
328
324
332
326

FIG. 3

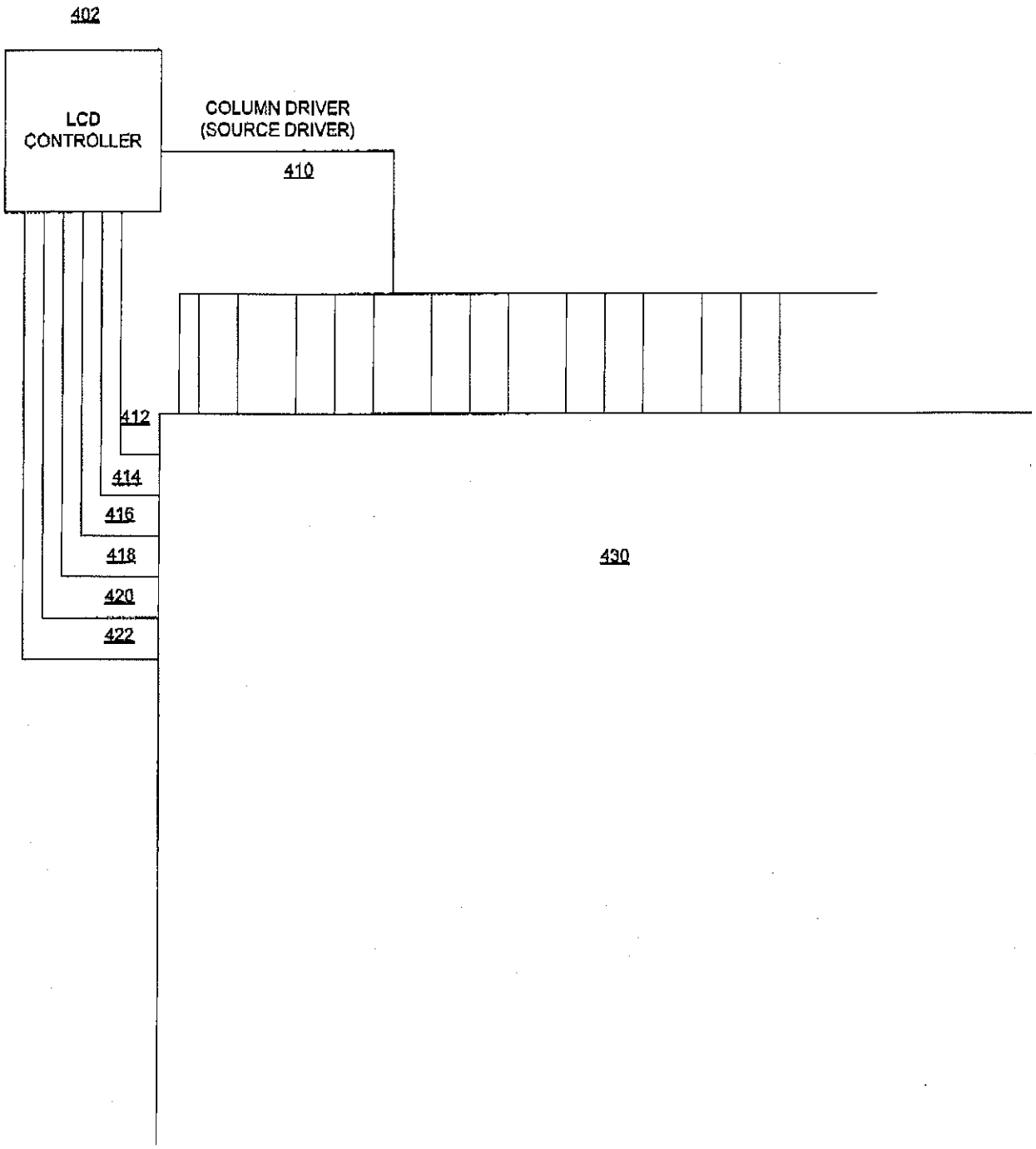

402
LCD CONTROLLER
COLUMN DRIVER (SOURCE DRIVER)
410
412
414
416
418
420
422
430

FIGURE 4

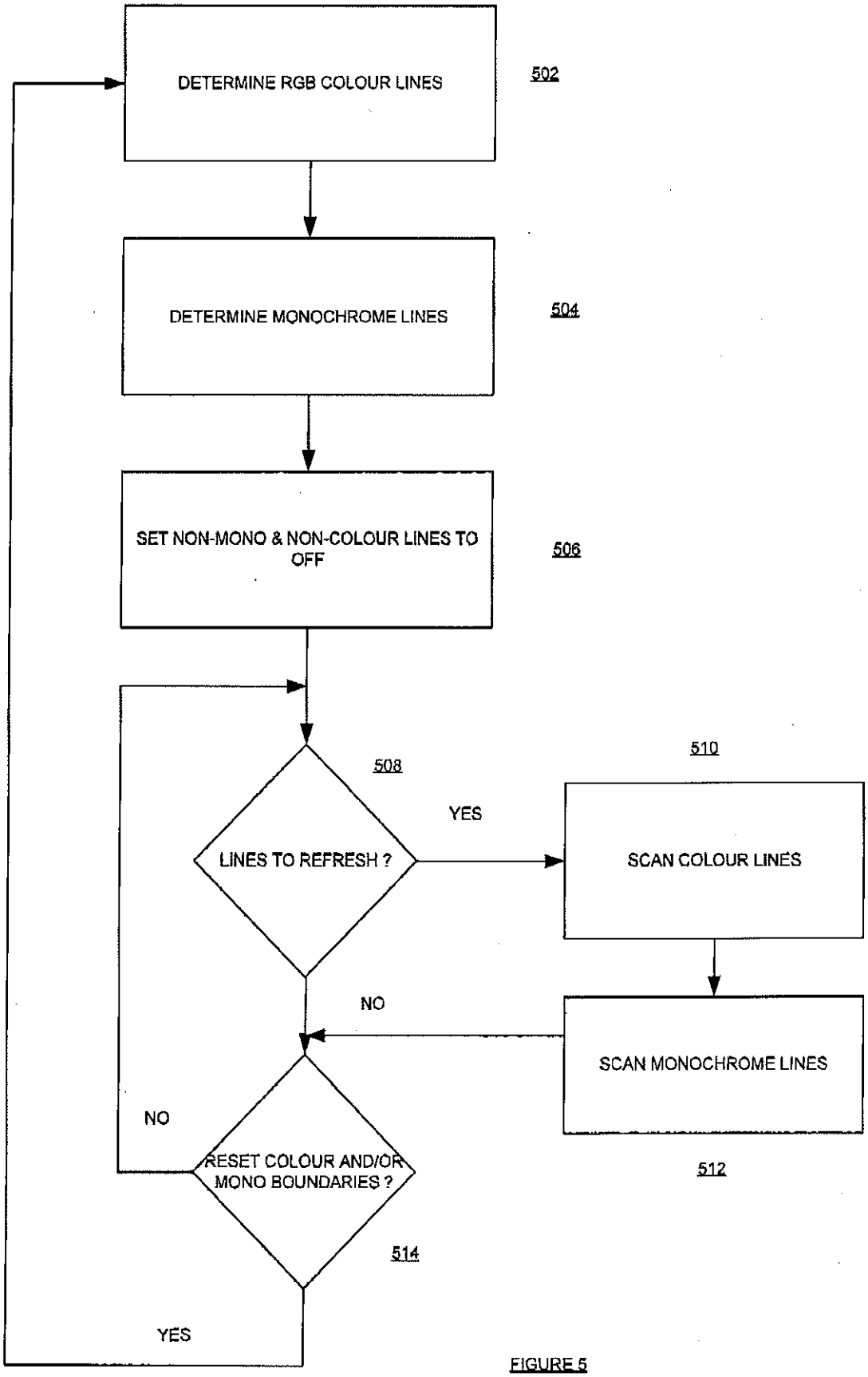

DETERMINE RGB COLOUR LINES
502
DETERMINE MONOCHROME LINES
504
SET NON-MONO & NON-COLOUR LINES TO OFF
506
508
LINES TO REFRESH ?
YES
510
SCAN COLOUR LINES
NO
SCAN MONOCHROME LINES
512
NO
RESET COLOUR AND/OR MONO BOUNDARIES ?
514
YES

FIGURE 5

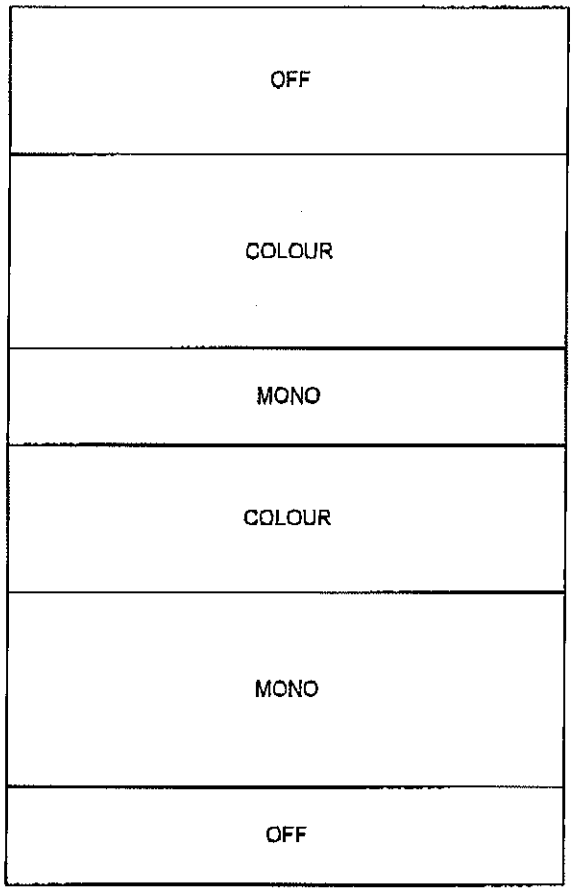


FIGURE 6

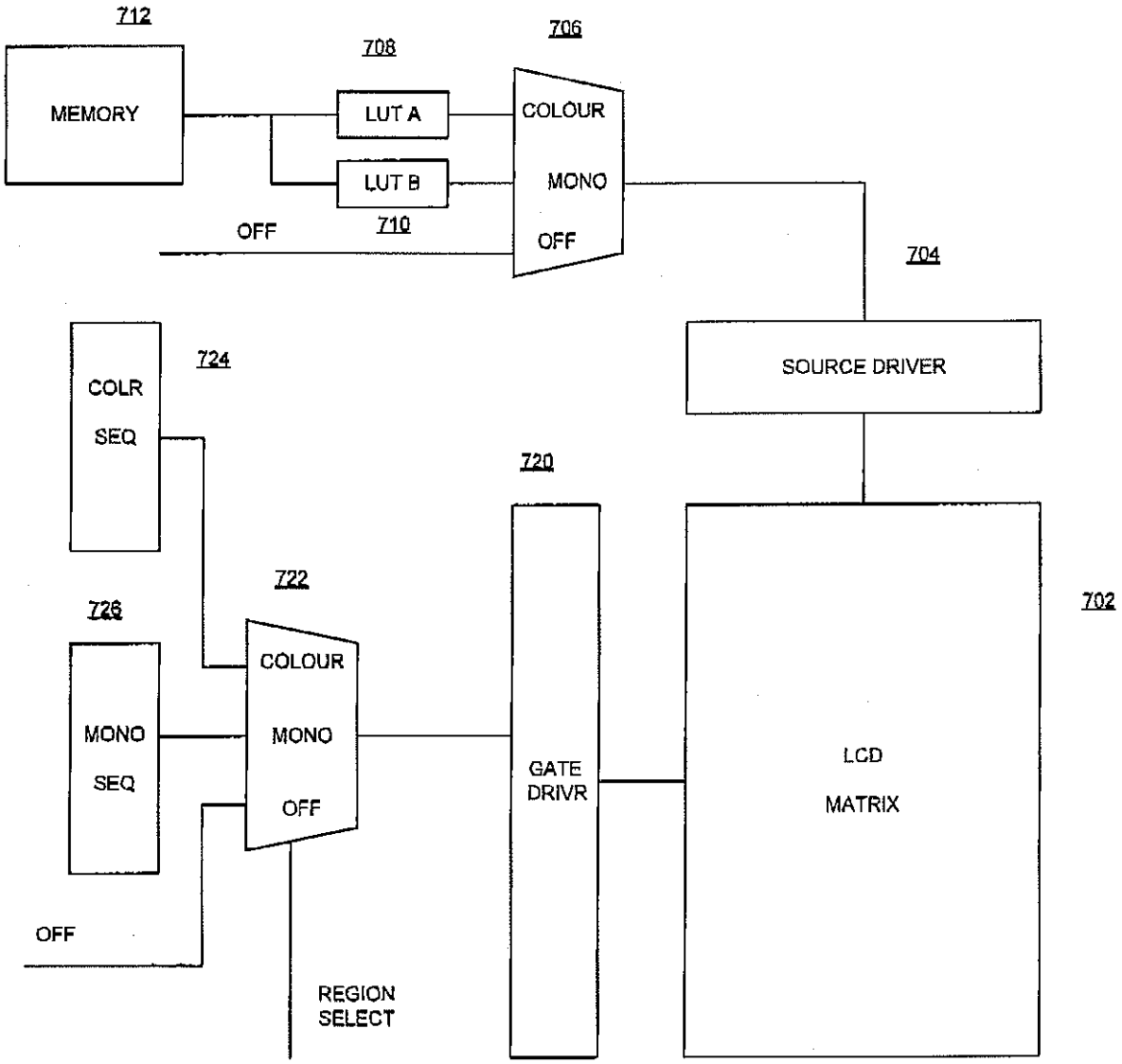

712
MEMORY
708
LUT A
LUT B
710
OFF
706
COLOUR
MONO
OFF
704
SOURCE DRIVER
724
COLR
SEQ
720
722
726
MONO
SEQ
COLOUR
MONO
OFF
OFF
REGION
SELECT
GATE
DRIVR
LCD
MATRIX
702

FIGURE 7

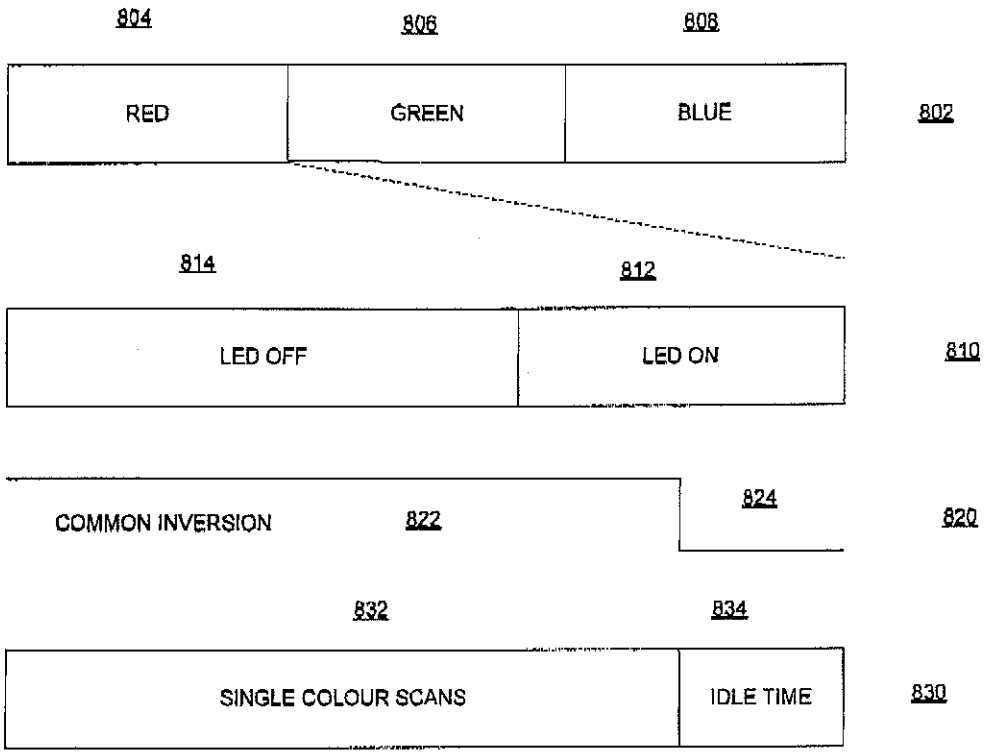


FIGURE 8

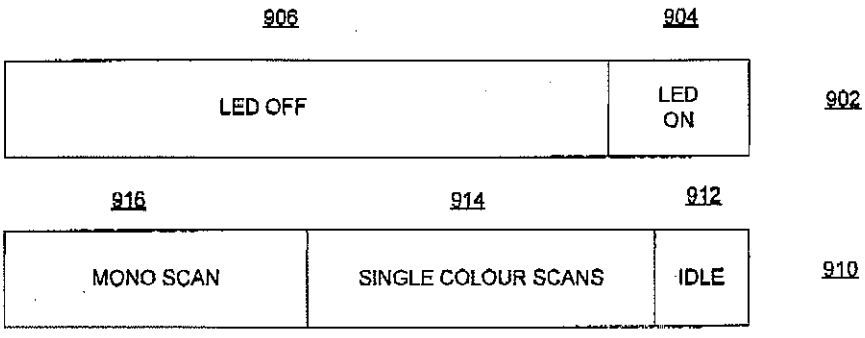


FIGURE 9

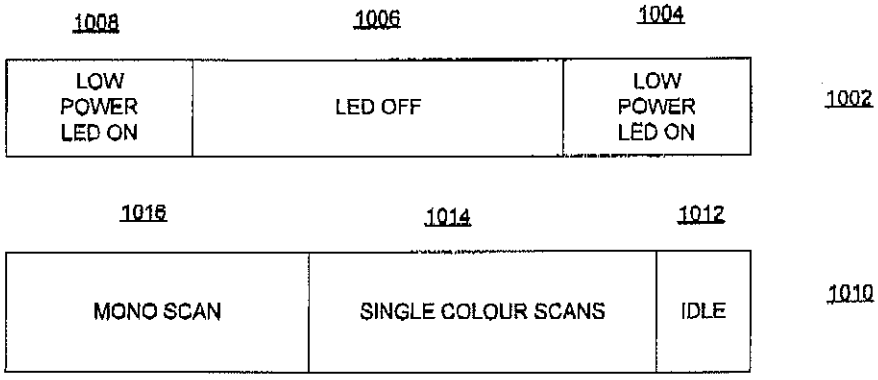


FIGURE 10

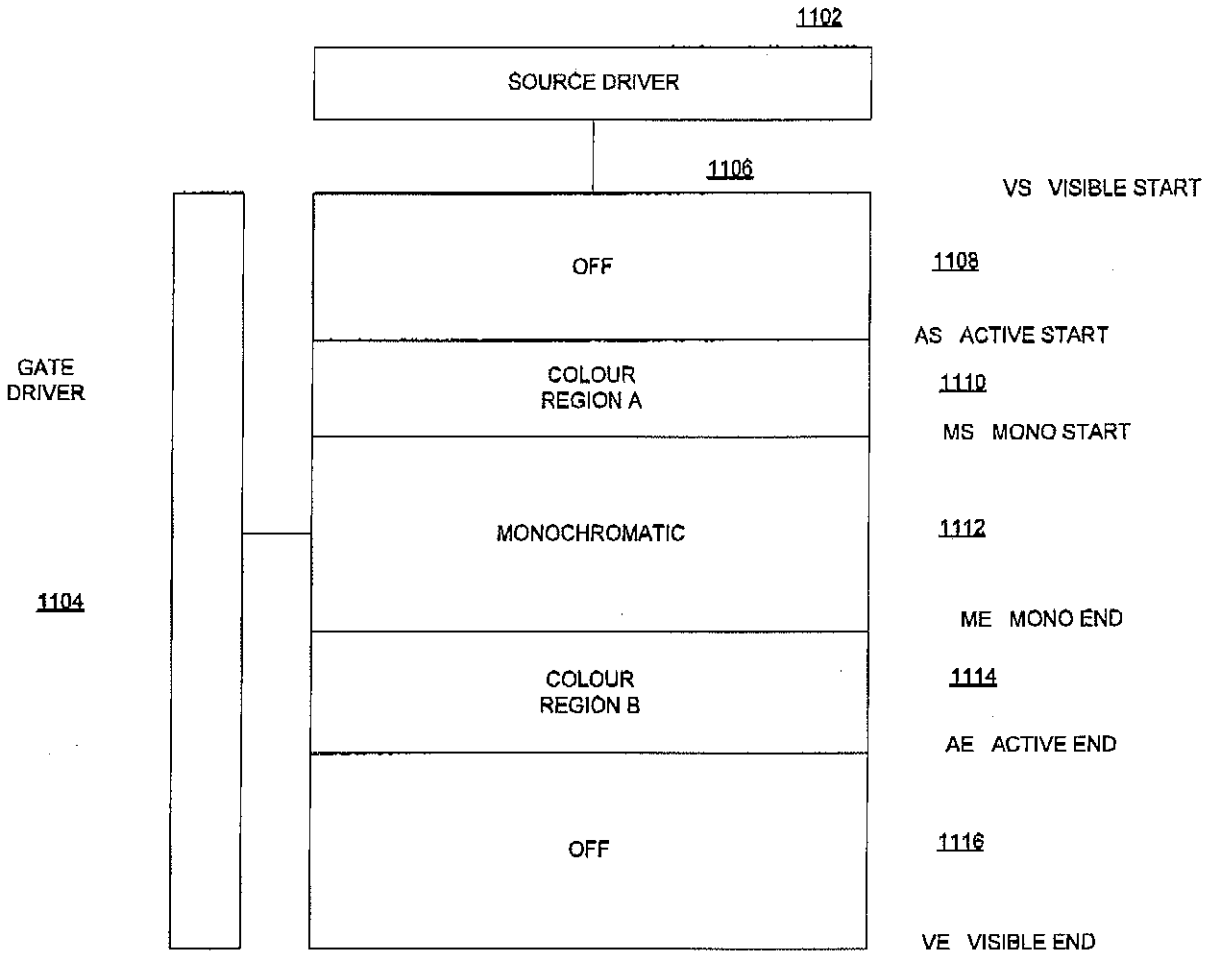

1102
SOURCE DRIVER
1106
VS VISIBLE START
OFF
1108
AS ACTIVE START
GATE DRIVER
COLOUR REGION A
1110
MS MONO START
MONOCHROMATIC
1112
1104
ME MONO END
COLOUR REGION B
1114
AE ACTIVE END
OFF
1116
VE VISIBLE END

FIGURE 11

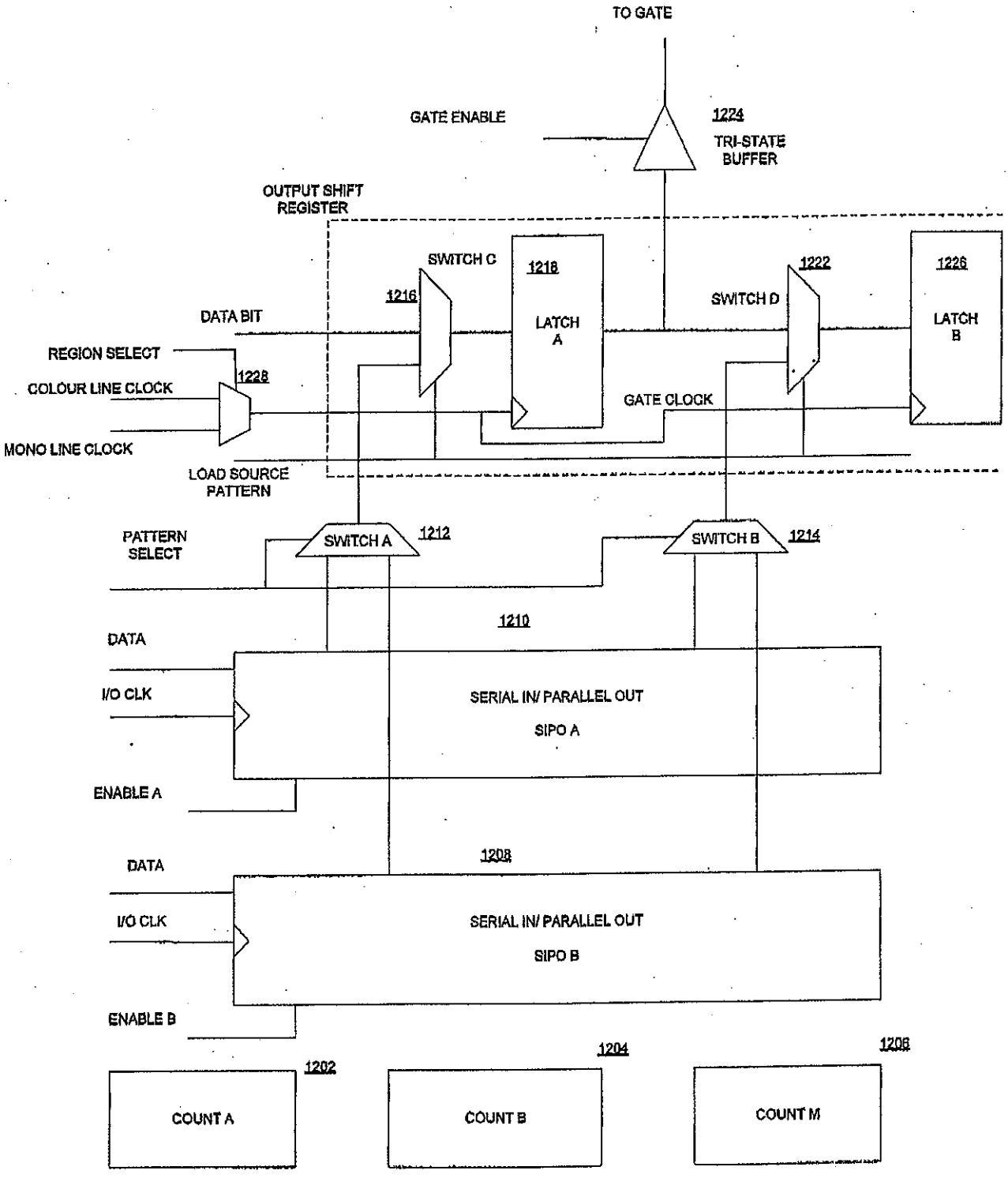

TO GATE
GATE ENABLE
1224
TRI-STATE BUFFER
OUTPUT SHIFT REGISTER
SWITCH C
1216
1218
LATCH A
SWITCH D
1222
1226
LATCH B
DATA BIT
REGION SELECT
1228
COLOUR LINE CLOCK
MONO LINE CLOCK
GATE CLOCK
LOAD SOURCE PATTERN
PATTERN SELECT
SWITCH A
1212
SWITCH B
1214
1210
DATA
I/O CLK
SERIAL IN/ PARALLEL OUT
SIPO A
ENABLE A
1208
DATA
I/O CLK
SERIAL IN/ PARALLEL OUT
SIPO B
ENABLE B
1204
1206
1202
COUNT A
COUNT B
COUNT M

FIGURE 12

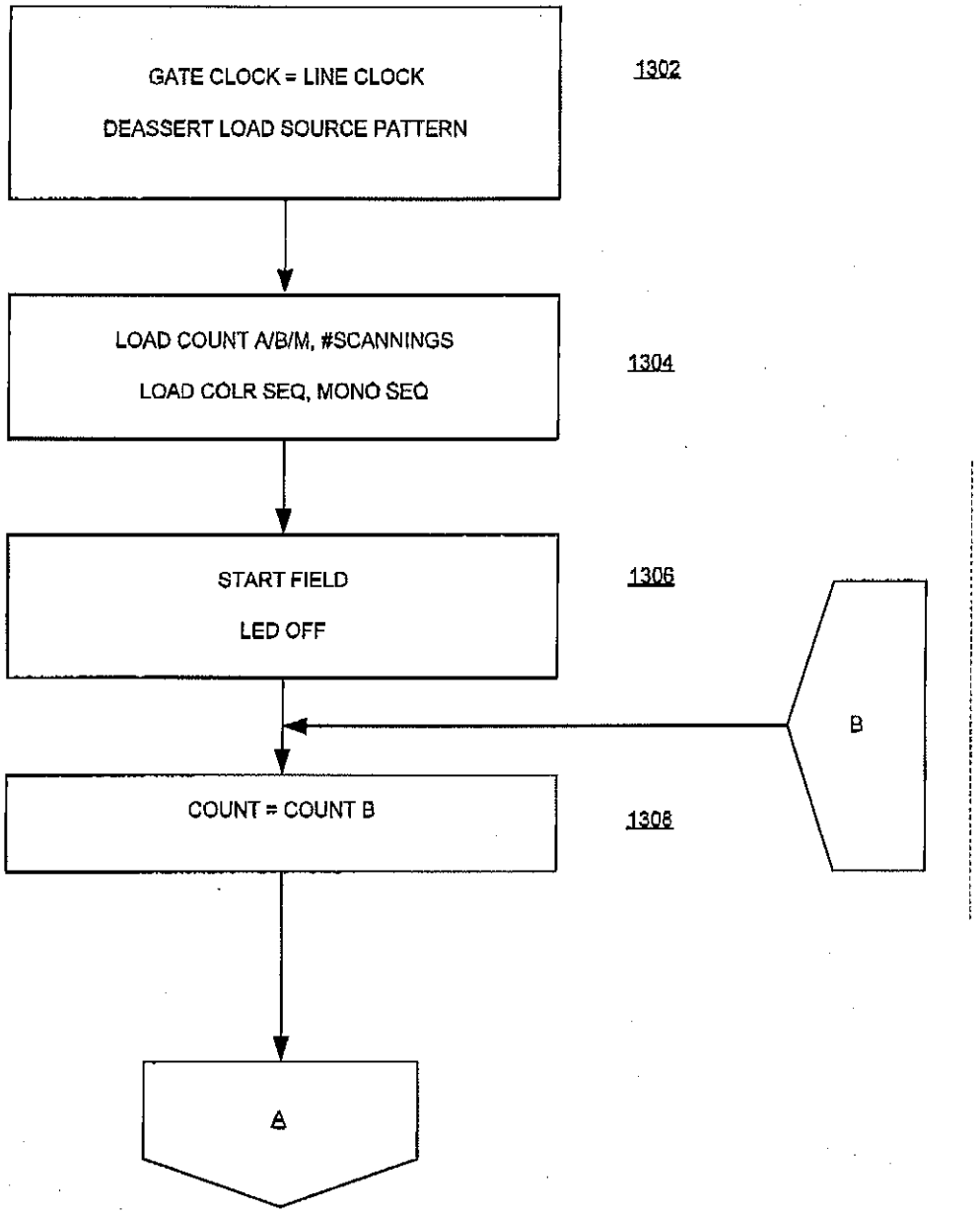

GATE CLOCK = LINE CLOCK
DEASSERT LOAD SOURCE PATTERN
1302
LOAD COUNT A/B/M, #SCANNINGS
LOAD COLR SEQ, MONO SEQ
1304
START FIELD
LED OFF
1306
B
COUNT = COUNT B
1308
A

FIGURE 13

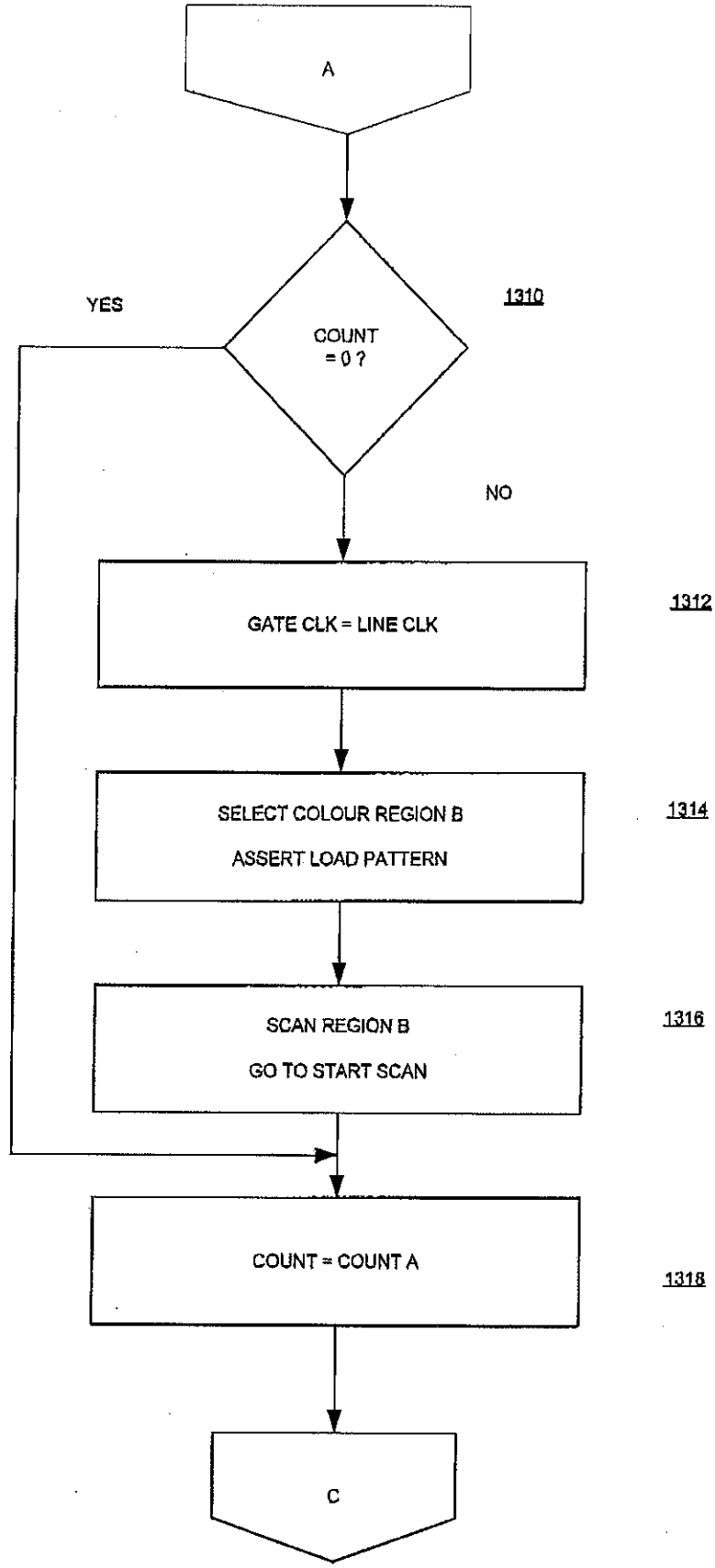

A
COUNT = 0 ?
1310
YES
NO
GATE CLK = LINE CLK
1312
SELECT COLOUR REGION B
ASSERT LOAD PATTERN
1314
SCAN REGION B
GO TO START SCAN
1316
COUNT = COUNT A
1318
C

FIGURE 13

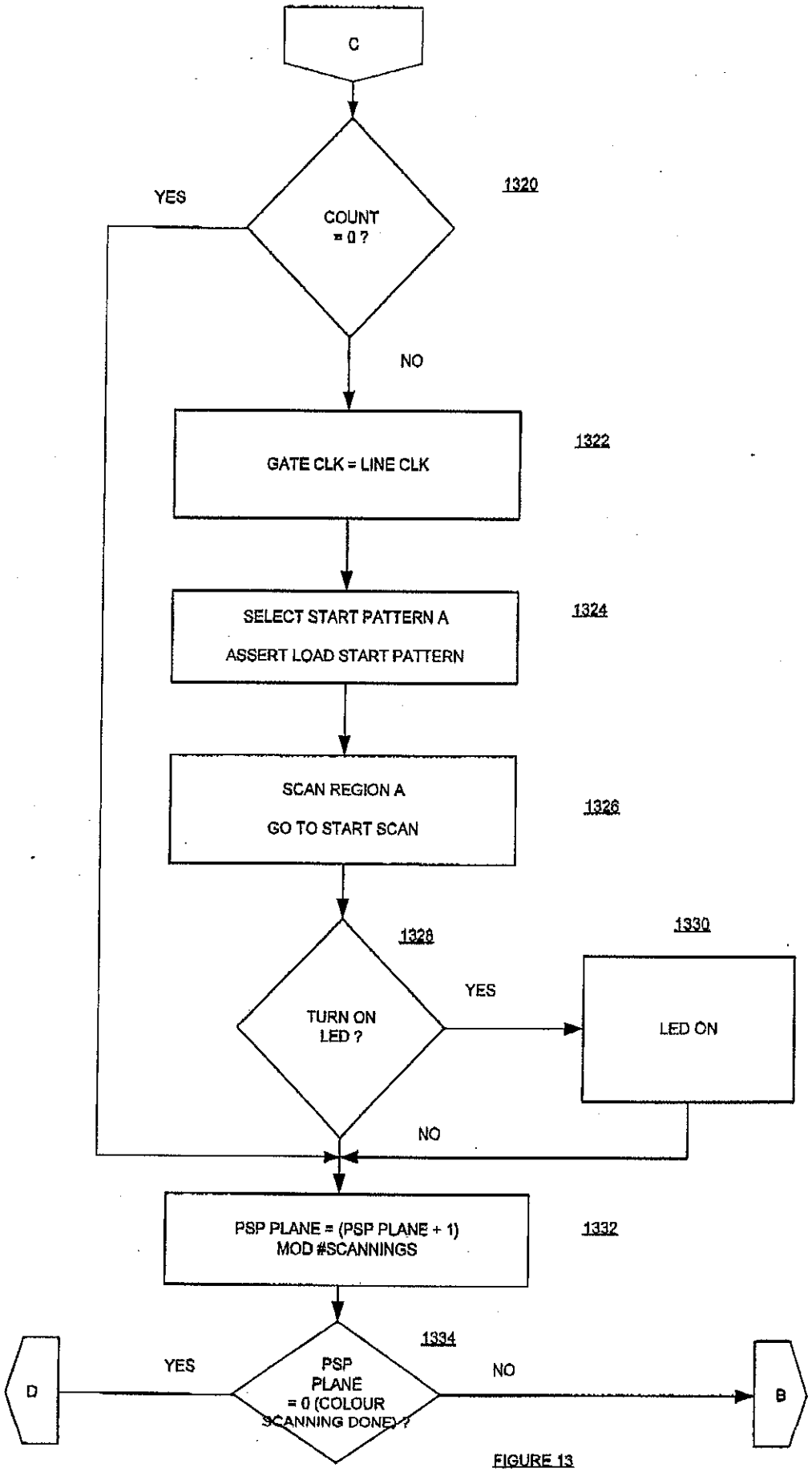

C
COUNT = 0 ?
1320
YES
NO
GATE CLK = LINE CLK
1322
SELECT START PATTERN A
ASSERT LOAD START PATTERN
1324
SCAN REGION A
GO TO START SCAN
1326
1328
TURN ON LED ?
YES
1330
LED ON
NO
PSP PLANE = (PSP PLANE + 1) MOD #SCANNINGS
1332
1334
D
YES
PSP PLANE = 0 (COLOUR SCANNING DONE) ?
NO
B

FIGURE 13

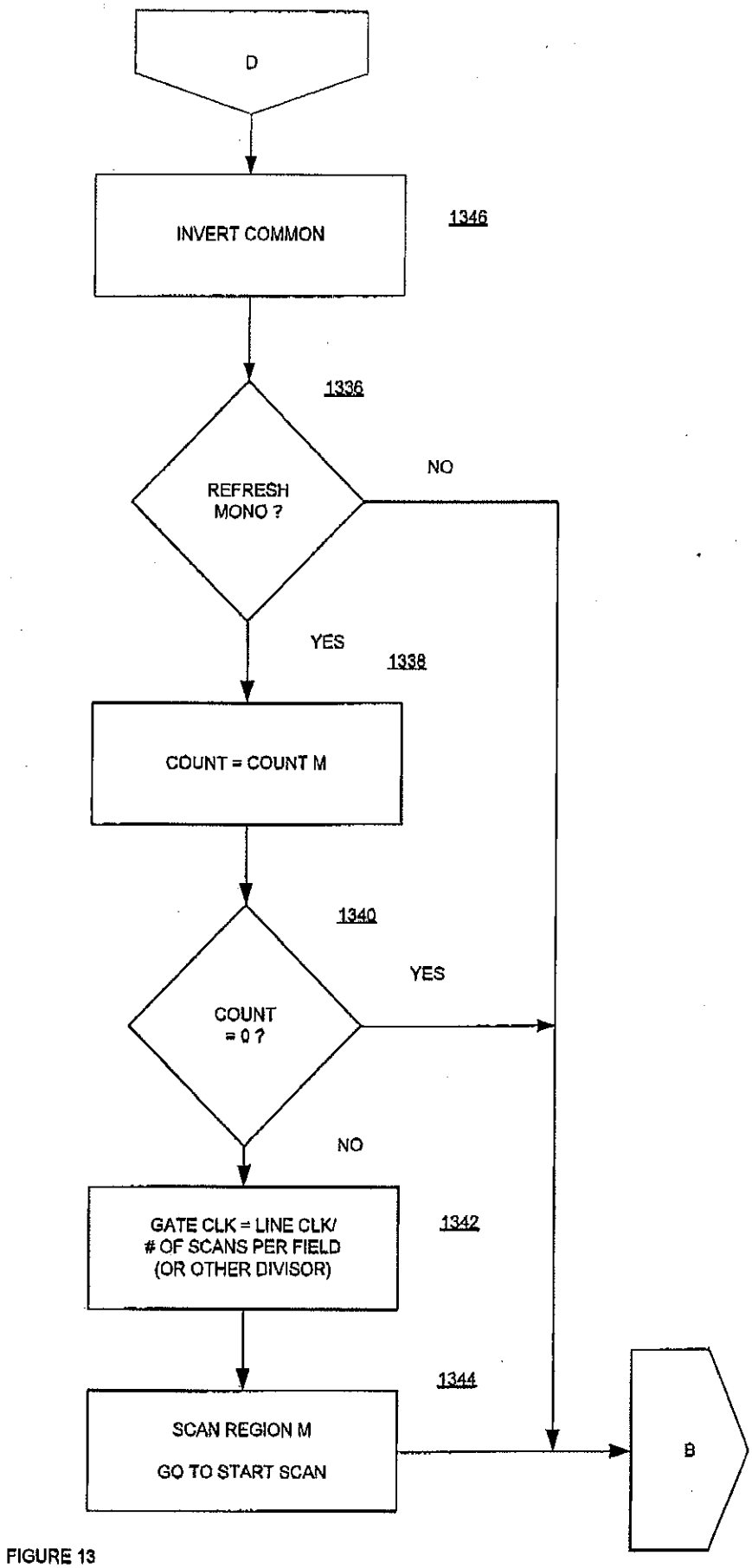

D
INVERT COMMON
1346
1336
REFRESH MONO ?
NO
YES
1338
COUNT = COUNT M
1340
COUNT = 0 ?
YES
NO
GATE CLK = LINE CLK/ # OF SCANS PER FIELD (OR OTHER DIVISOR)
1342
1344
SCAN REGION M
GO TO START SCAN
B

FIGURE 13

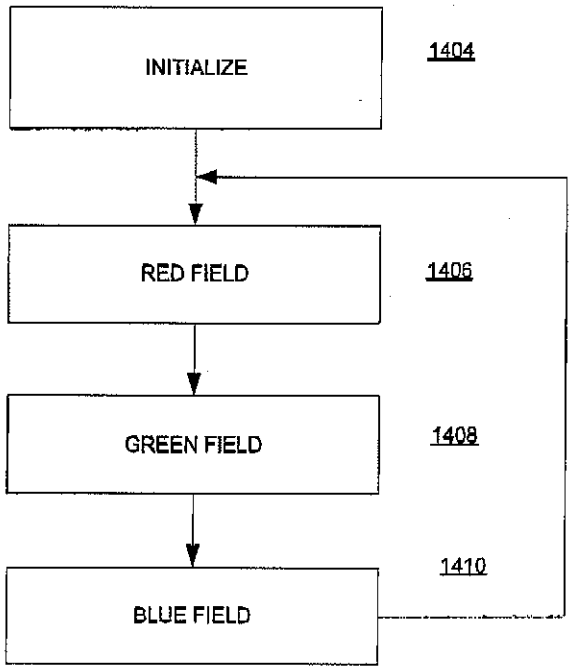

INITIALIZE
1404
RED FIELD
1406
GREEN FIELD
1408
1410
BLUE FIELD

FIGURE 14

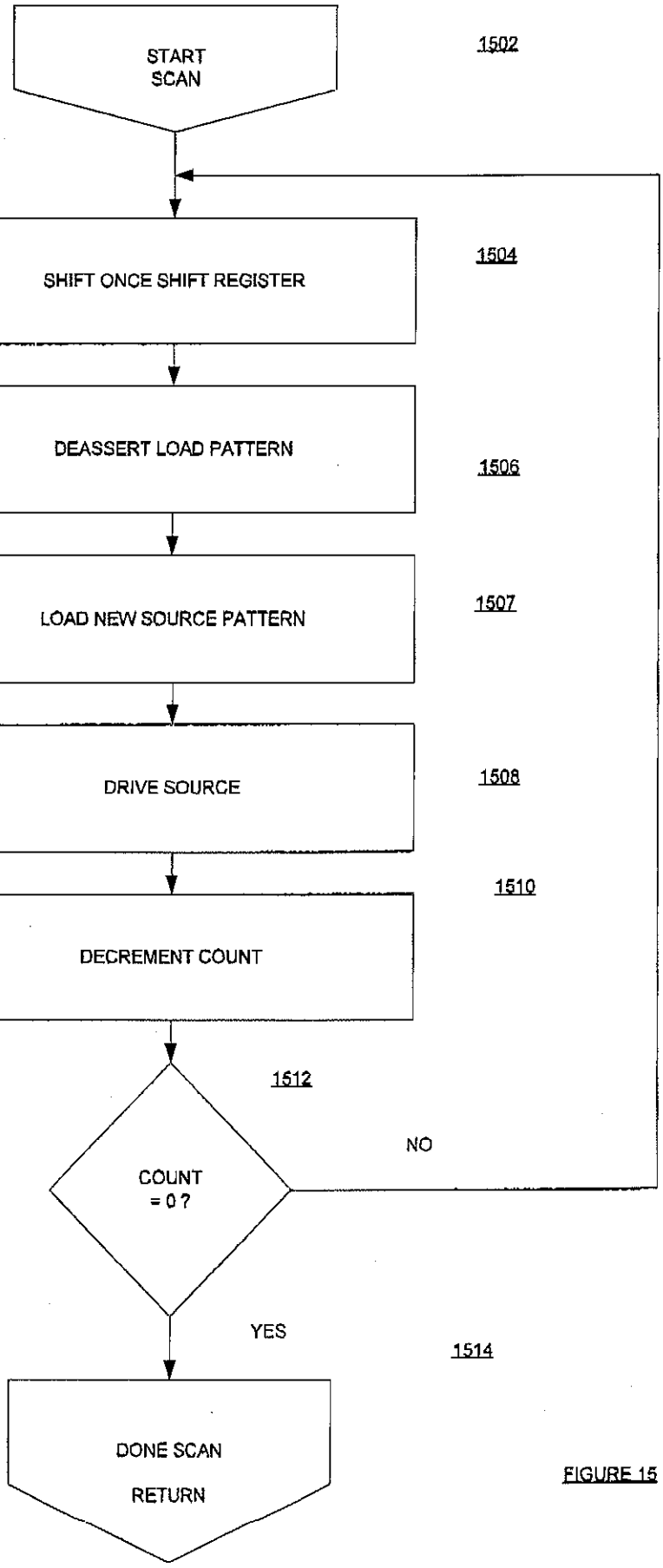

START SCAN
1502
SHIFT ONCE SHIFT REGISTER
1504
DEASSERT LOAD PATTERN
1506
LOAD NEW SOURCE PATTERN
1507
DRIVE SOURCE
1508
DECREMENT COUNT
1510
1512
COUNT = 0 ?
NO
YES
1514
DONE SCAN
RETURN

FIGURE 15