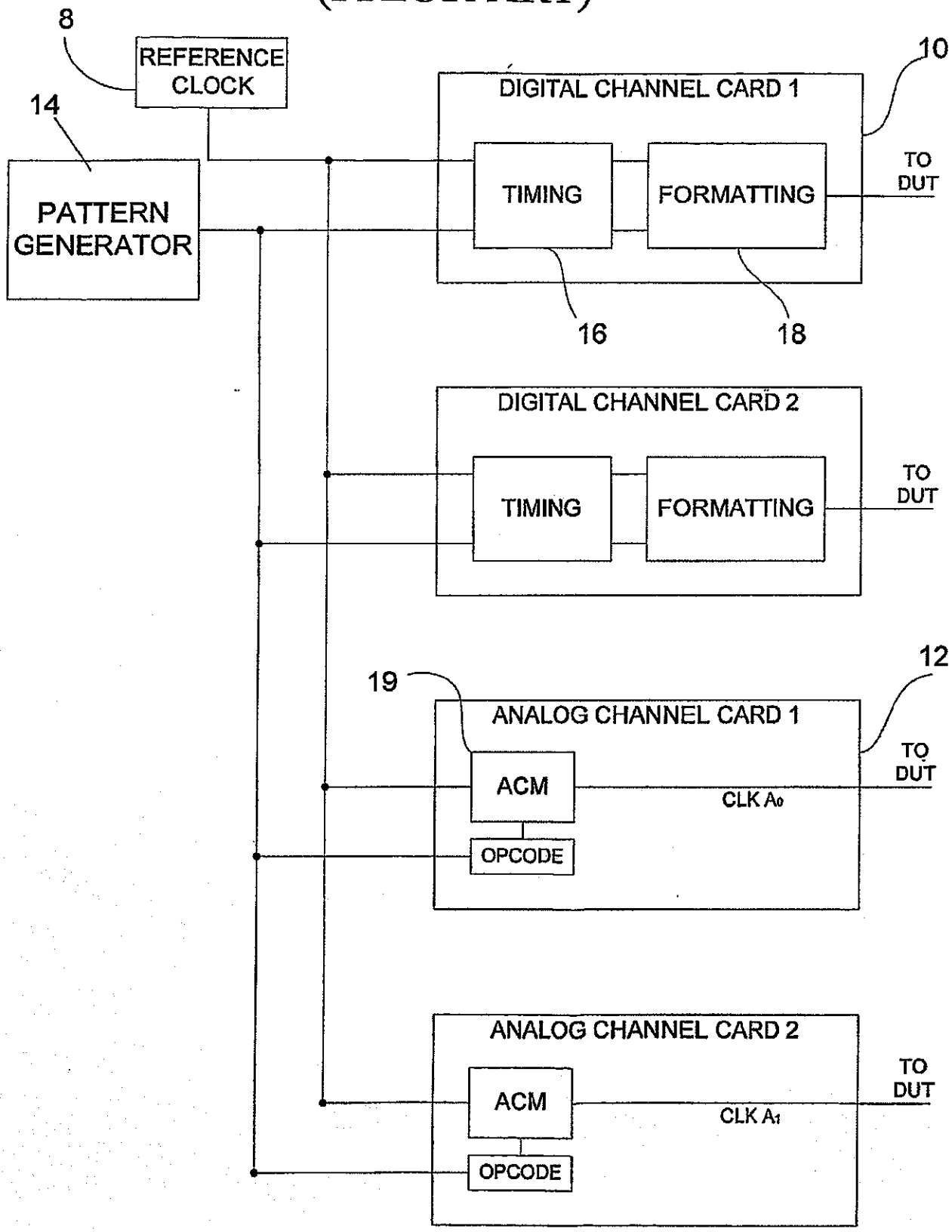
FIG. 1
(PRIOR ART)



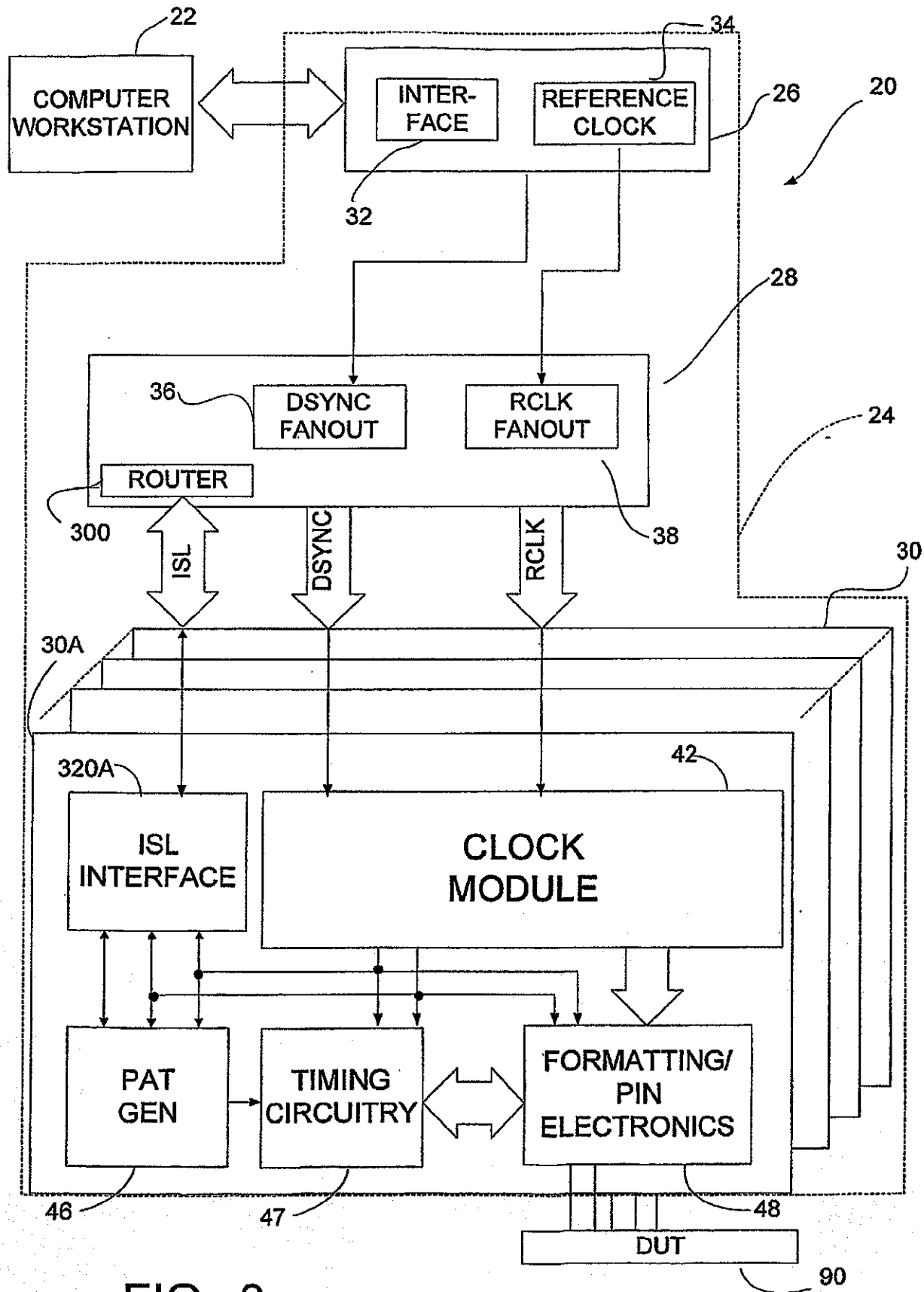

22
COMPUTER WORKSTATION
34
INTER-FACE
REFERENCE CLOCK
26
20
32
28
36
DSYNC FANOUT
RCLK FANOUT
24
ROUTER
300
38
ISL
DSYNC
RCLK
30
30A
320A
42
ISL INTERFACE
CLOCK MODULE
PAT GEN
TIMING CIRCUITRY
FORMATTING/ PIN ELECTRONICS
46
47
48
DUT
90

FIG. 2

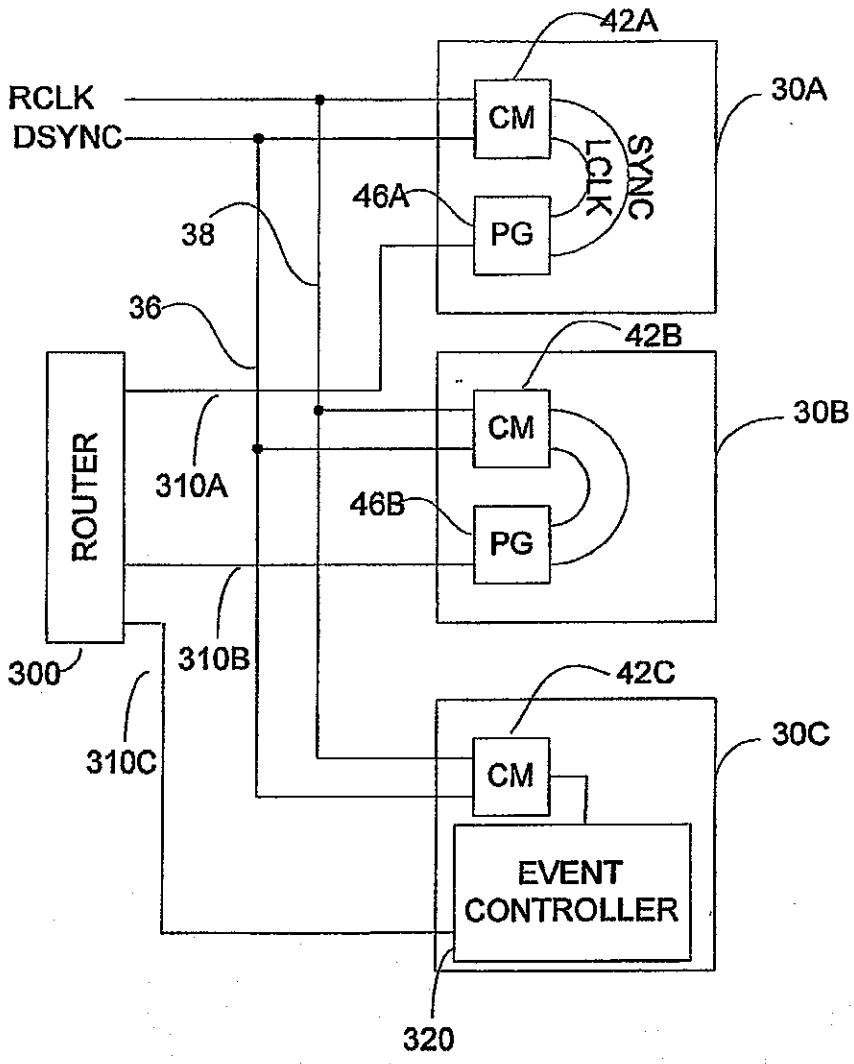

42A
30A
RCLK
DSYNC
CM
SYNC
LCLK
46A
PG
38
36
42B
30B
ROUTER
310A
CM
46B
PG
300
310B
42C
30C
310C
CM
EVENT
CONTROLLER
320

FIG. 3

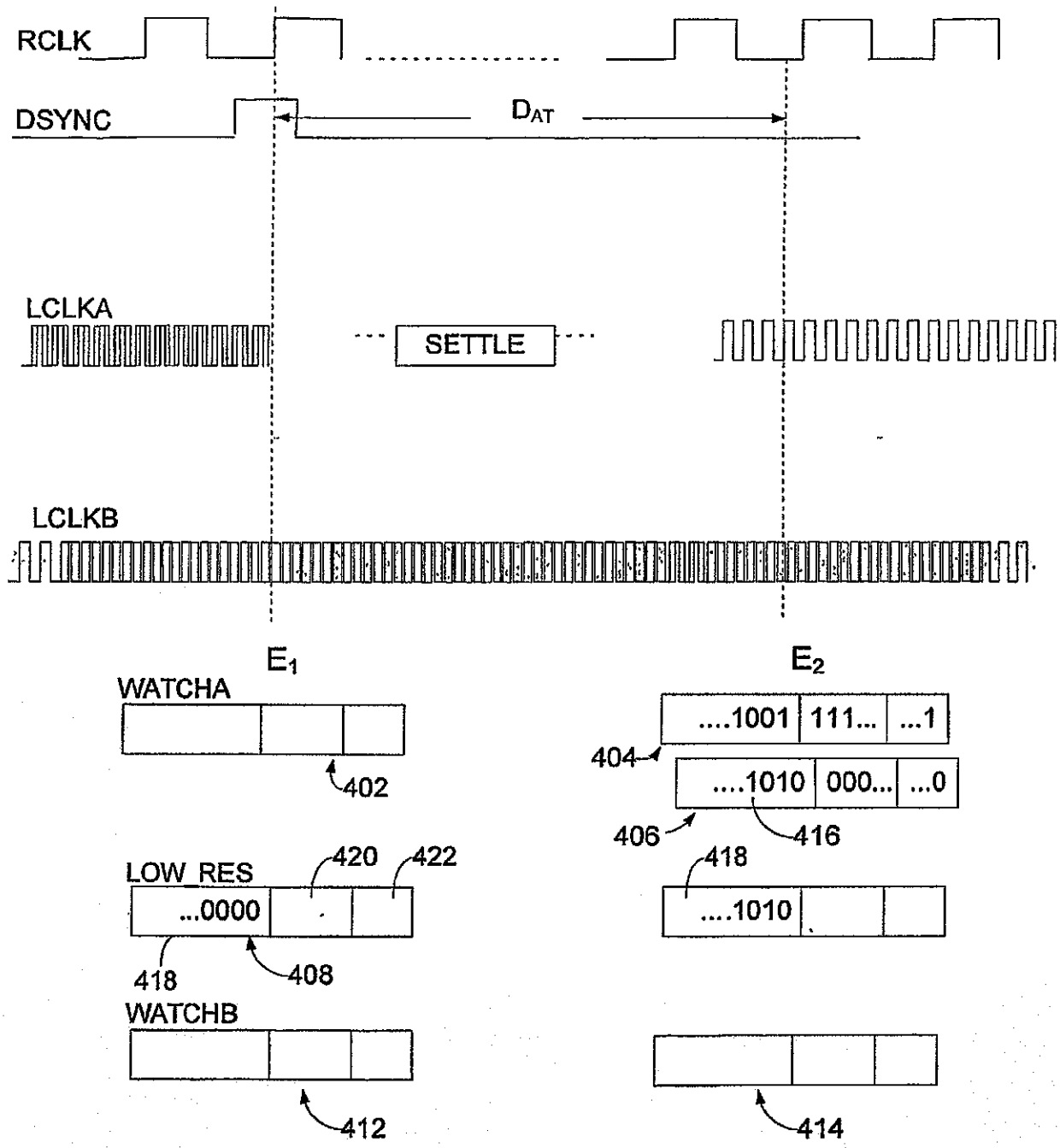

RCLK
DSYNC
DAT
LCLKA
SETTLE
LCLKB
E1
WATCHA
402
LOW RES
...0000
420
422
418
408
WATCHB
412
E2
....1001
111...
...1
404
....1010
000...
...0
406
416
418
....1010
414

FIG. 4A

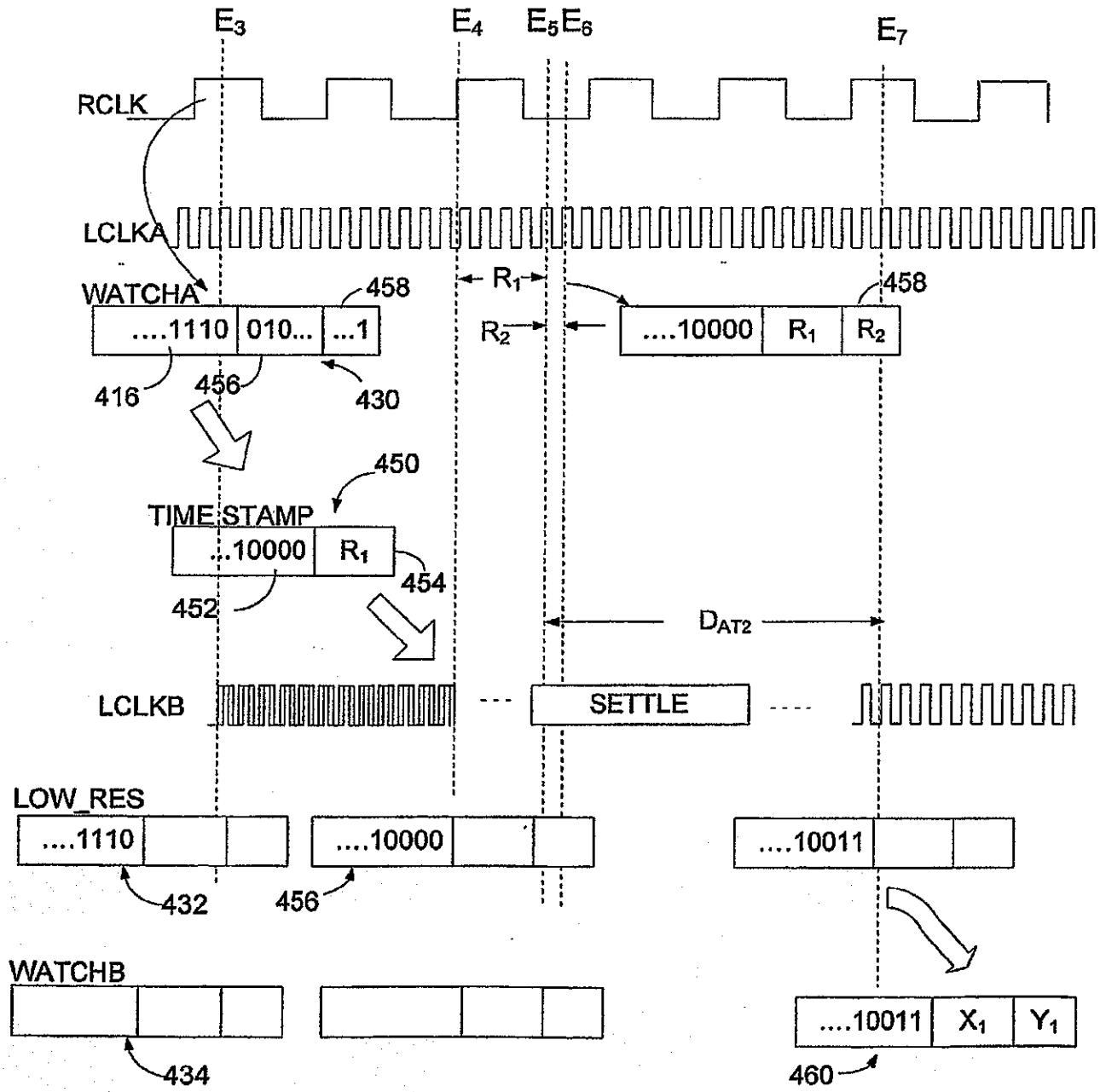

E3
E4
E5E6
E7
RCLK
LCLKA
WATCHA
458
R1
458
....1110
010...
...1
R2
....10000
R1
R2
416
456
430
450
TIME STAMP
..10000
R1
454
452
DAT2
LCLKB
SETTLE
LOW_RES
....1110
....10000
....10011
432
456
WATCHB
....10011
X1
Y1
434
460

FIG. 4B

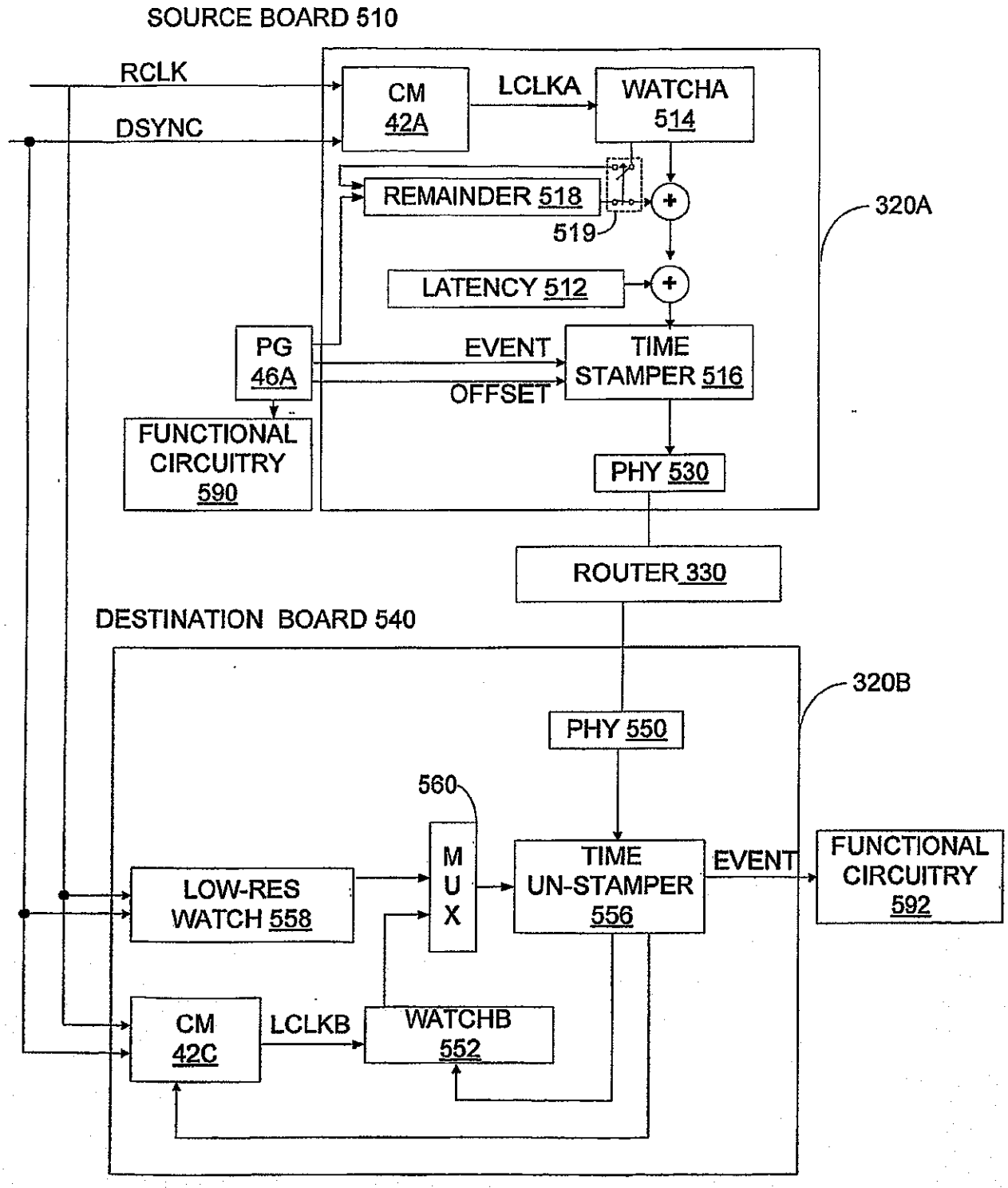

SOURCE BOARD 510
RCLK
DSYNC
CM 42A
LCLKA
WATCHA 514
REMAINDER 518
519
320A
LATENCY 512
PG 46A
EVENT
OFFSET
TIME STAMPER 516
FUNCTIONAL CIRCUITRY 590
PHY 530
ROUTER 330
DESTINATION BOARD 540
320B
PHY 550
560
M U X
LOW-RES WATCH 558
TIME UN-STAMPER 556
EVENT
FUNCTIONAL CIRCUITRY 592
CM 42C
LCLKB
WATCHB 552

FIG. 5

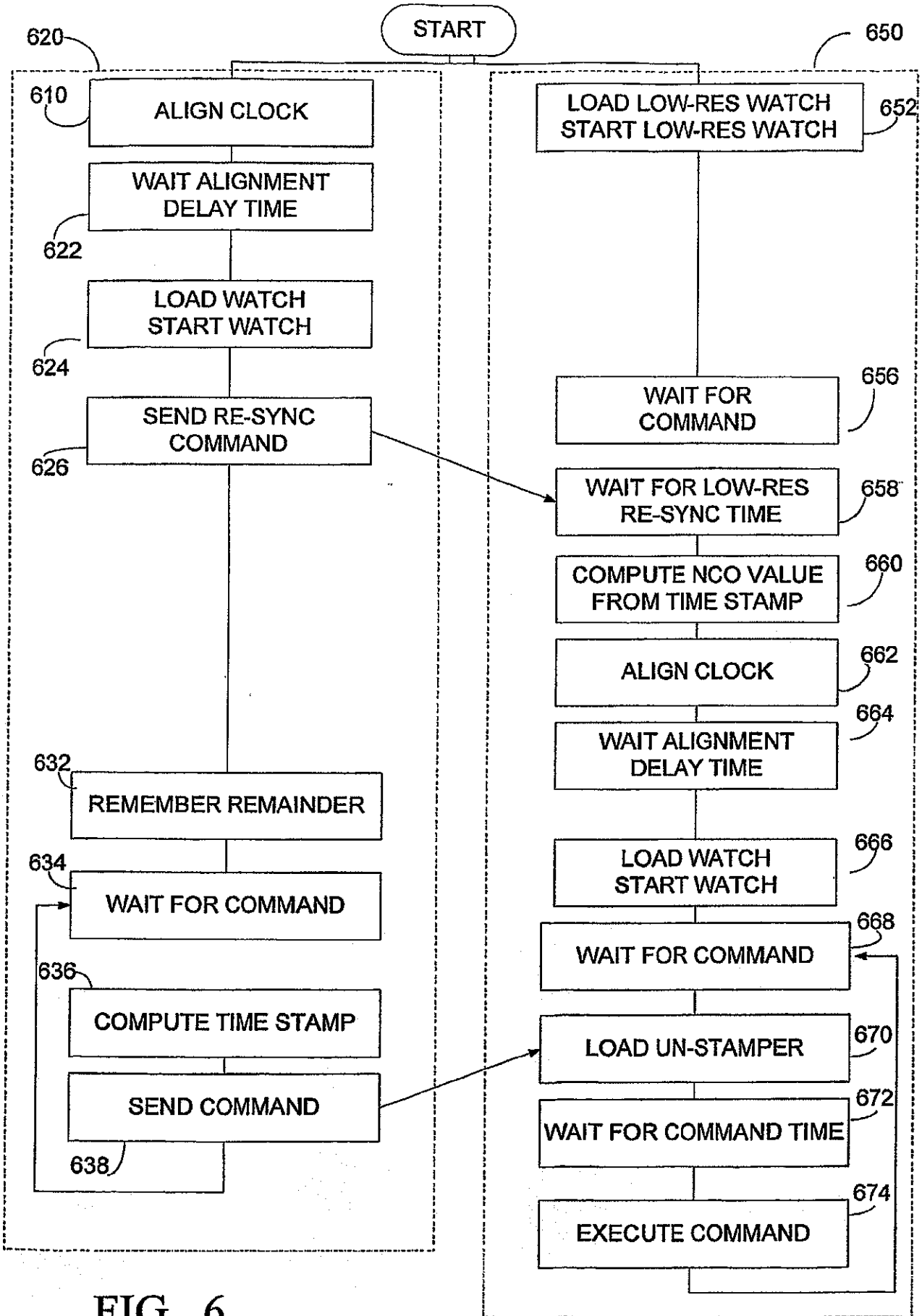

START
620
610
ALIGN CLOCK
WAIT ALIGNMENT DELAY TIME
622
LOAD WATCH START WATCH
624
SEND RE-SYNC COMMAND
626
632
REMEMBER REMAINDER
634
WAIT FOR COMMAND
636
COMPUTE TIME STAMP
SEND COMMAND
638
650
LOAD LOW-RES WATCH START LOW-RES WATCH
652
WAIT FOR COMMAND
656
WAIT FOR LOW-RES RE-SYNC TIME
658
COMPUTE NCO VALUE FROM TIME STAMP
660
ALIGN CLOCK
662
WAIT ALIGNMENT DELAY TIME
664
LOAD WATCH START WATCH
666
WAIT FOR COMMAND
668
LOAD UN-STAMPER
670
WAIT FOR COMMAND TIME
672
EXECUTE COMMAND
674

FIG. 6