

FIG. 1

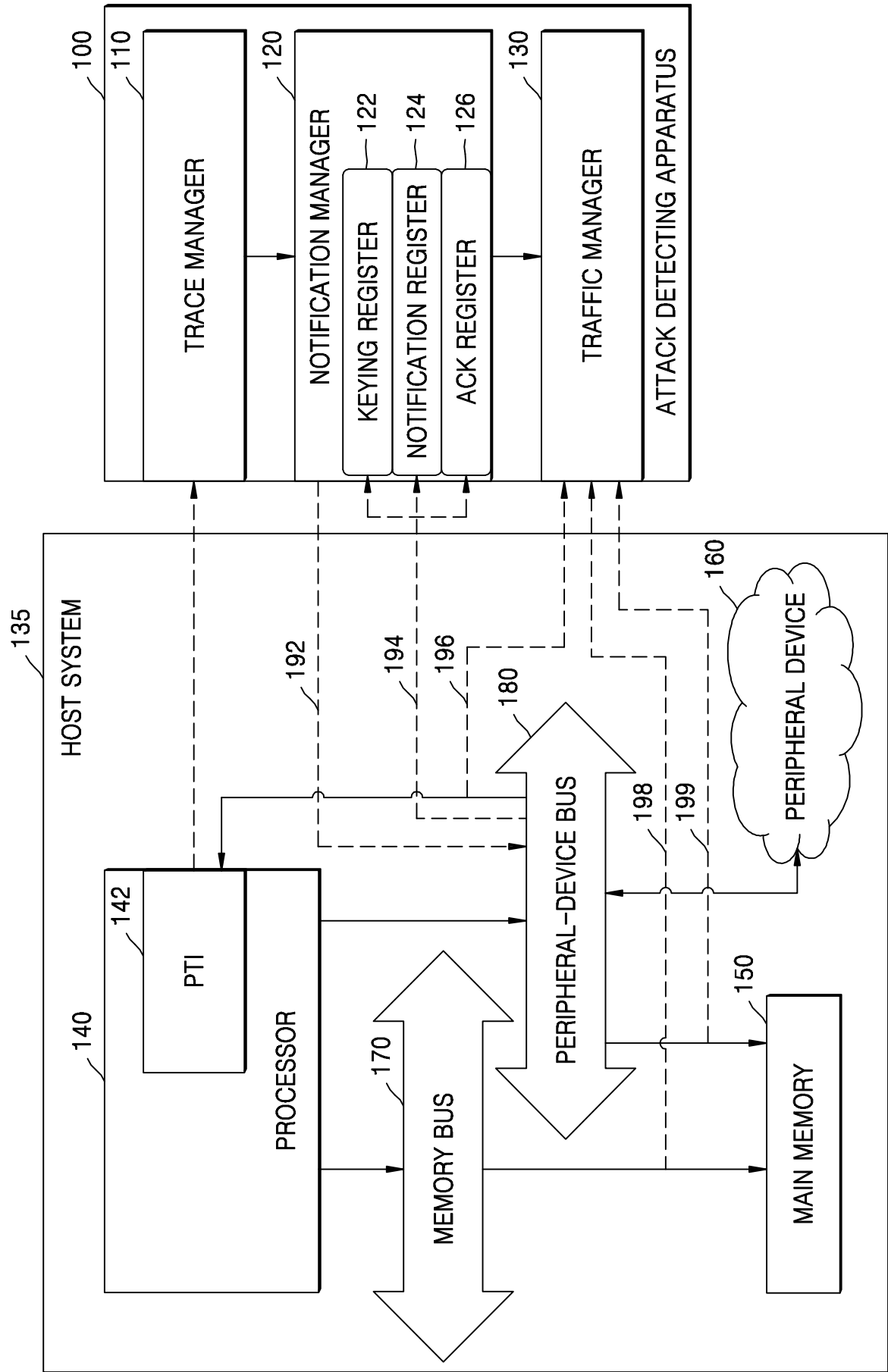


FIG. 2

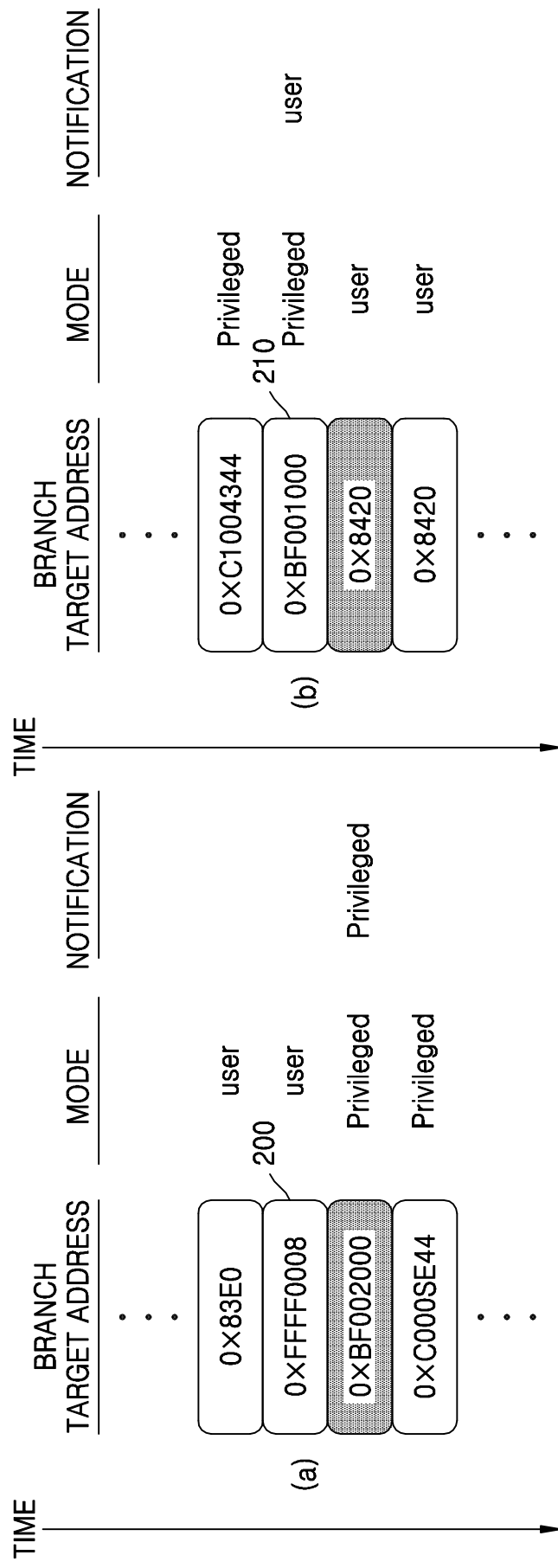


FIG. 3

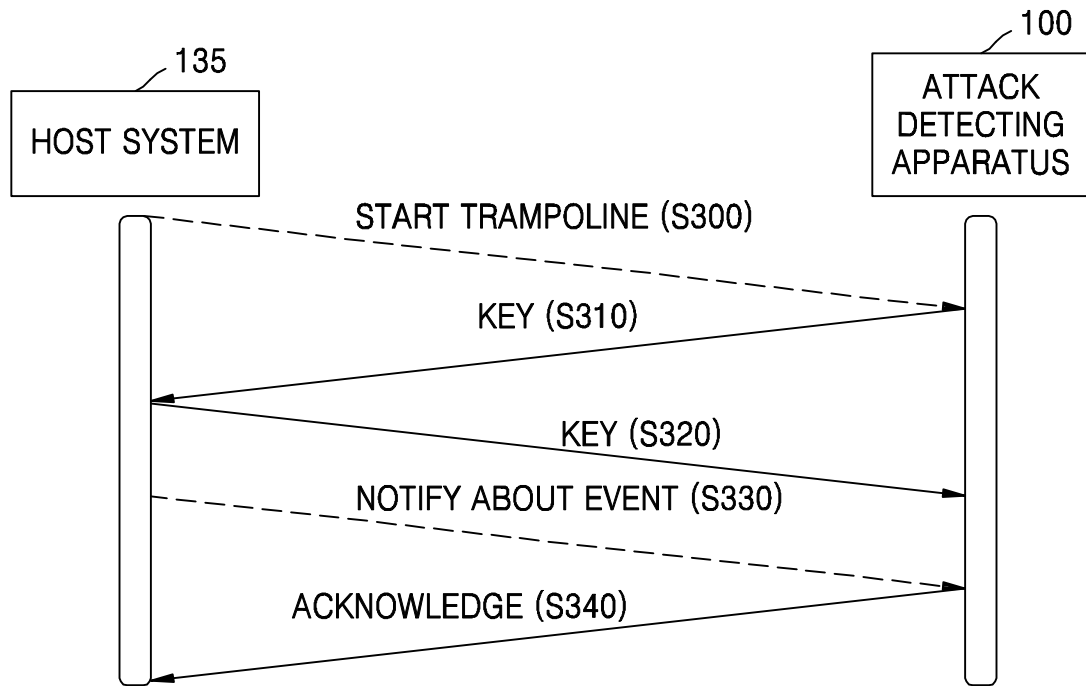


FIG. 4

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(1)  enter:
(2)      cpsid i                ;; DEACTIVATE INTERRUPT
(3)      1dr   r3, key_reg_addr ;; ADDRESS OF KEYING REGISTER
(4)  wait_for_key:
(5)      1dr   r6, [r3]         ;; LOAD VALUE OF KEYING REGISTER
(6)      cmp   r6, #0
(7)      beq   wait_for_key
(8)  /*report and emulate*/      ;; r3+#4 => NOTIFICATION REGISTER
(9)      str   r6, [r3, #4]     ;; NOTIFY ABOUT KEY
(10)     str   r5, [r3, #4]     ;; NOTIFY ABOUT NEW VALUE
(11)     mcr   p15, 0, r5, c12, c0, 0 ;; UPDATE VBAR
(12)     isb   sy
(13)  wait_for_ack:
(14)     1dr   r6, [r3, #8]     ;; LOAD VALUE OF ACK REGISTER
(15)     cmp   r6, #0xF
(16)     bne   wait_for_ack
(17)     1dr   r3, return_val   ;; RESTORE CONTEXT AND RETURN
(18)     cpsie i                ;; ACTIVATE INTERRUPT
(19)     bx    r3
(20)  exit

```

FIG. 5

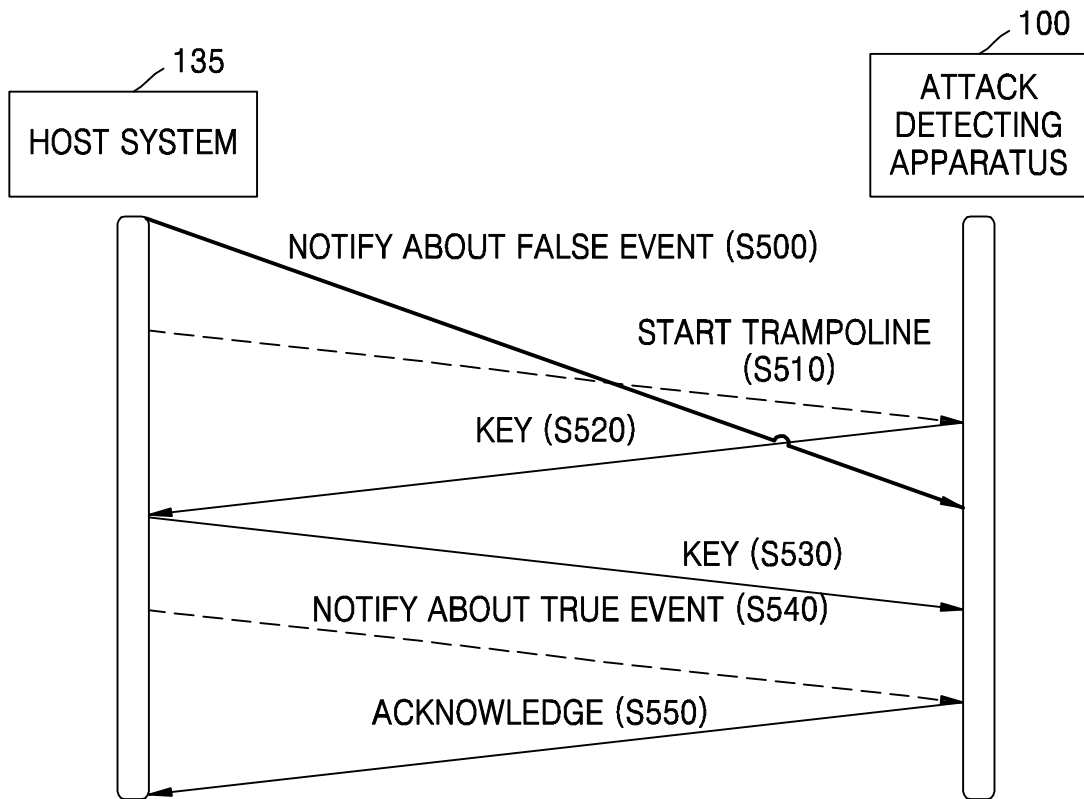


FIG. 6

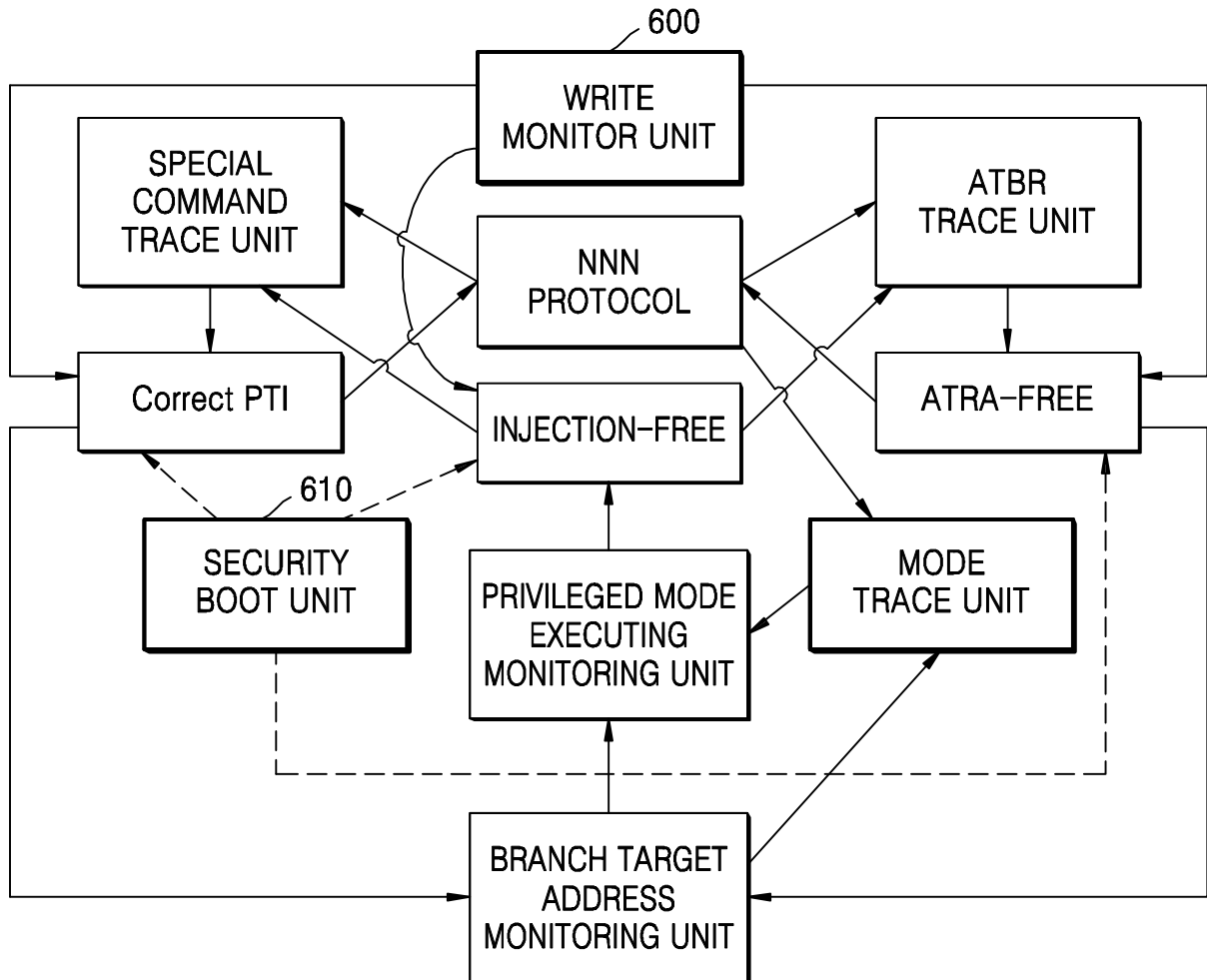


FIG. 7

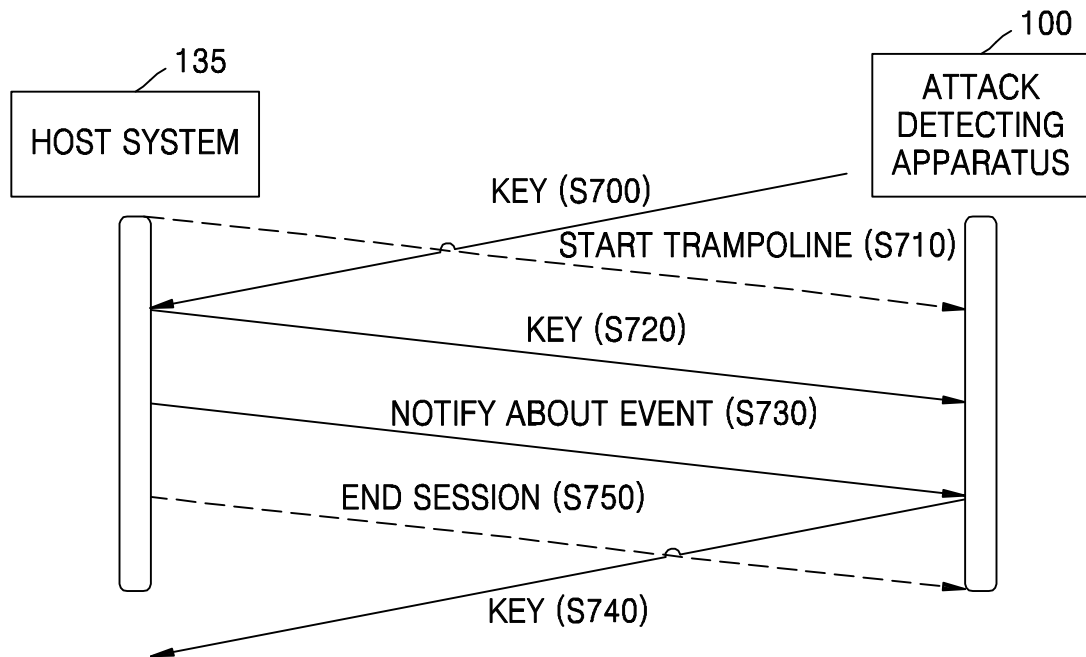


FIG. 8

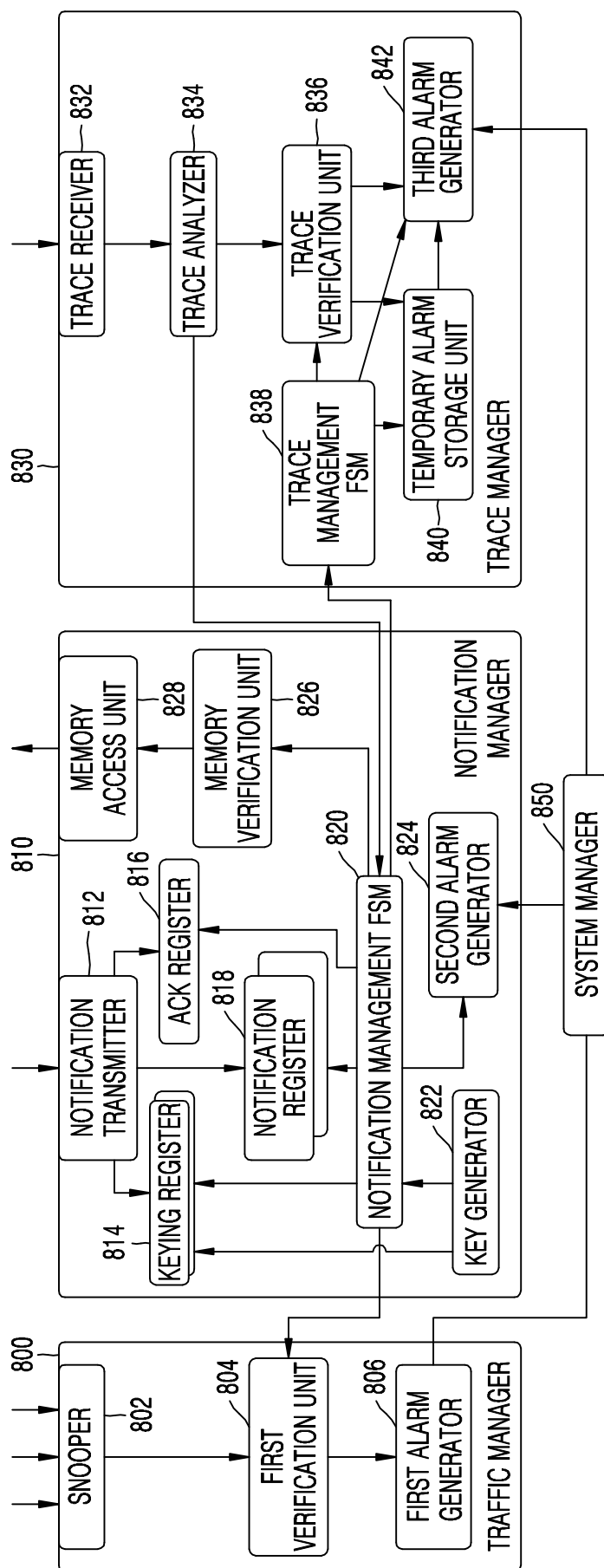


FIG. 9

