FIG. 1

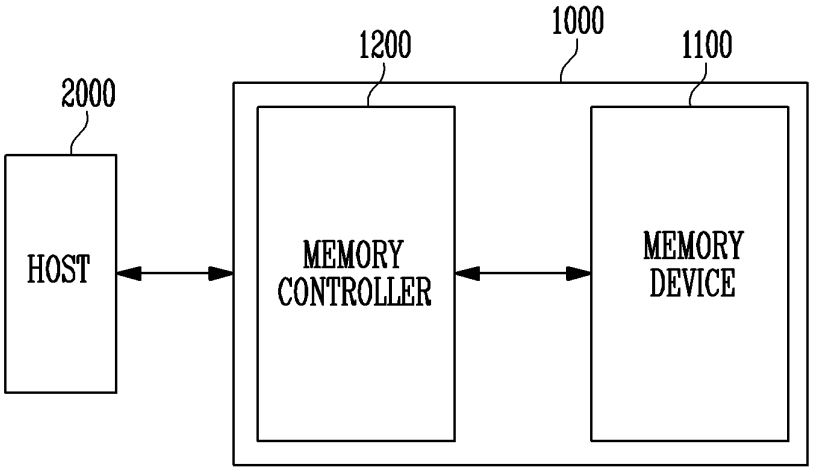


FIG. 2

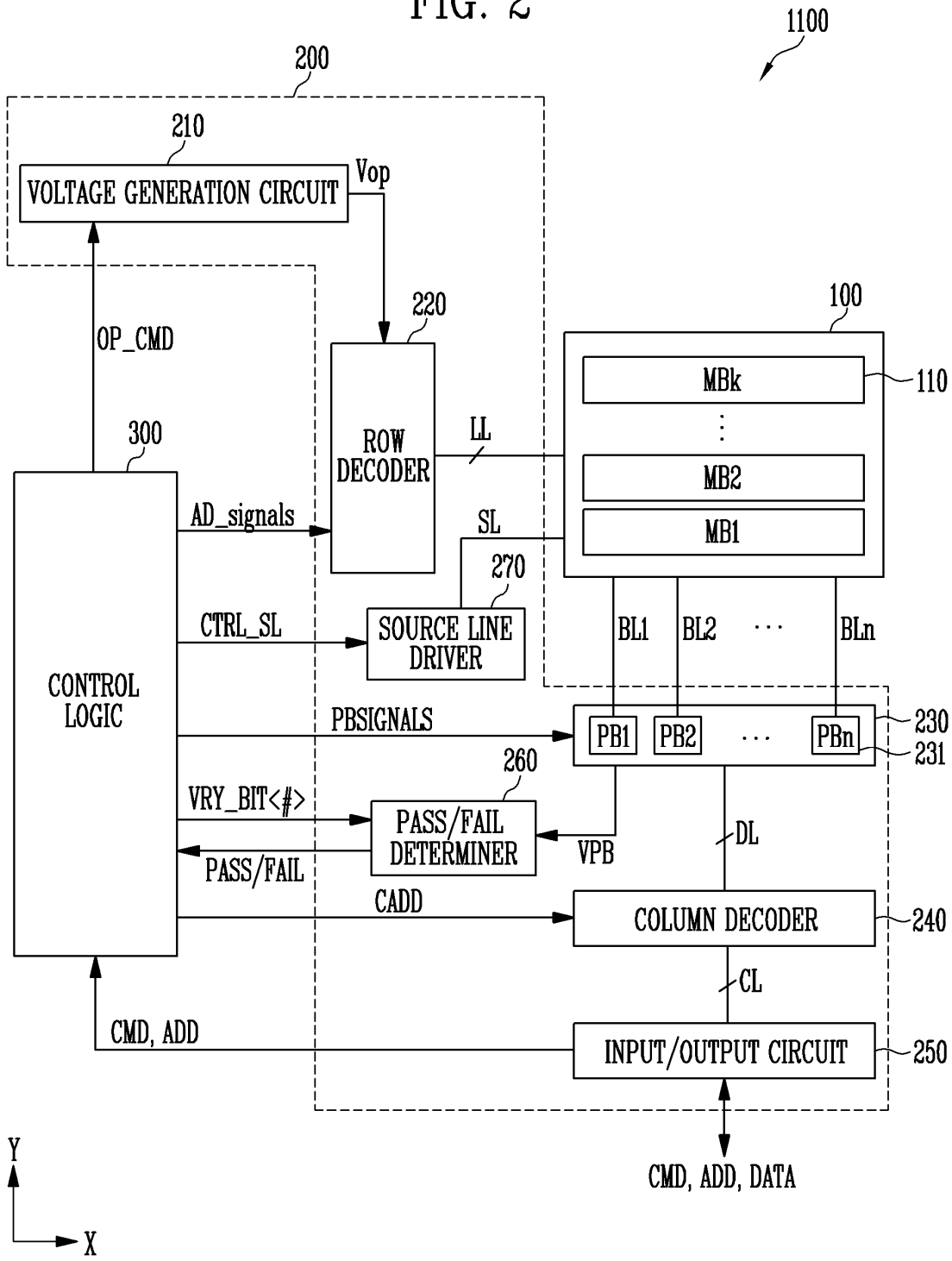

1100
200
210
VOLTAGE GENERATION CIRCUIT
Vop
220
100
OP_CMD
MBk
110
300
ROW DECODER
LL
MB2
MB1
AD_signals
SL
270
CTRL_SL
SOURCE LINE DRIVER
BL1
BL2
BLn
CONTROL LOGIC
PBSIGNALS
PB1
PB2
PBn
230
231
260
VRY_BIT<#>
PASS/FAIL DETERMINER
VPB
DL
PASS/FAIL
CADD
COLUMN DECODER
240
CL
CMD, ADD
INPUT/OUTPUT CIRCUIT
250
CMD, ADD, DATA
Y
X

FIG. 3

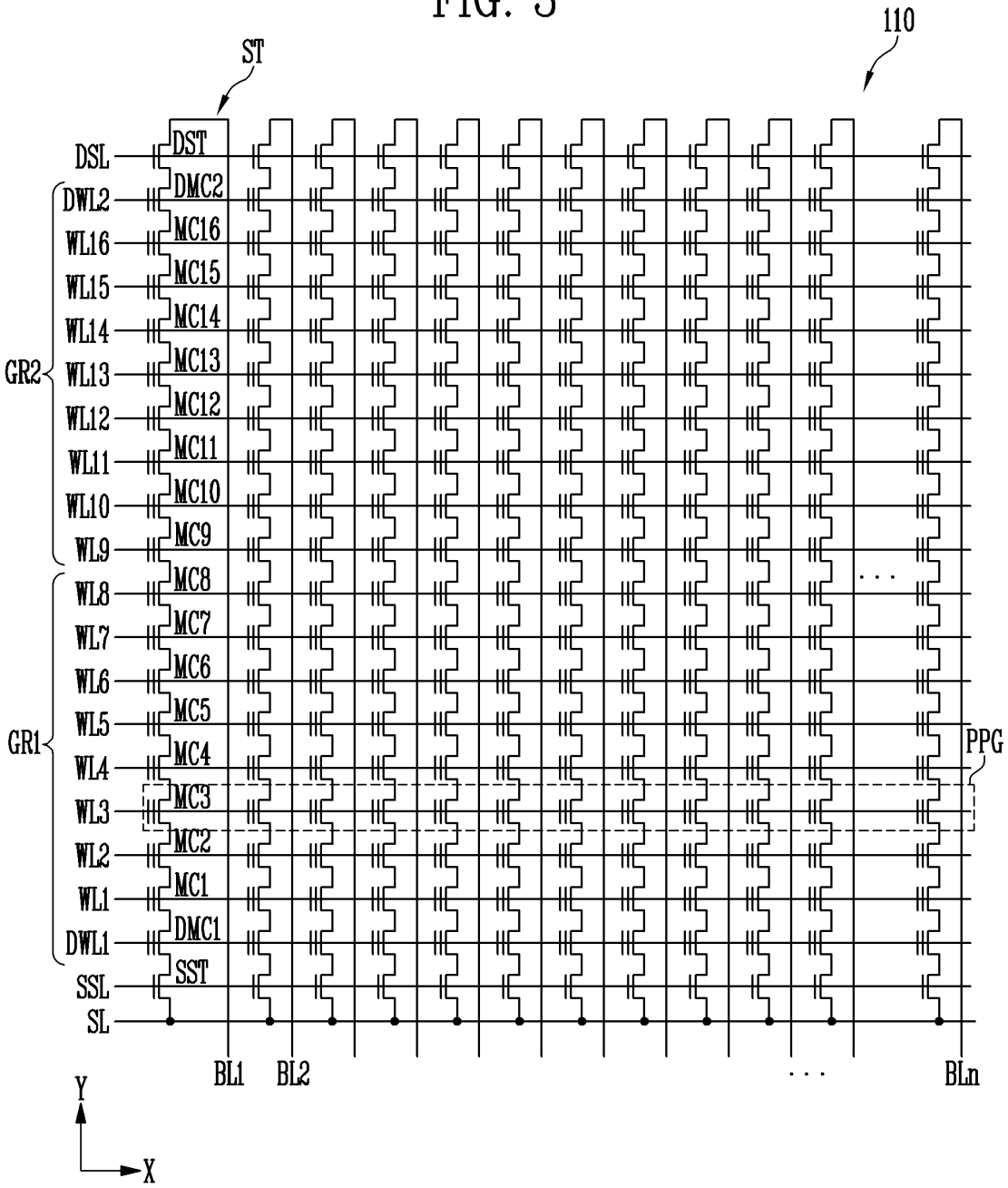

110
ST
DST
DMC2
MC16
MC15
MC14
MC13
MC12
MC11
MC10
MC9
MC8
MC7
MC6
MC5
MC4
MC3
MC2
MC1
DMC1
SST
DSL
DWL2
WL16
WL15
WL14
WL13
WL12
WL11
WL10
WL9
WL8
WL7
WL6
WL5
WL4
WL3
WL2
WL1
DWL1
SSL
SL
GR2
GR1
PPG
BL1
BL2
BLn
Y
X

FIG. 4

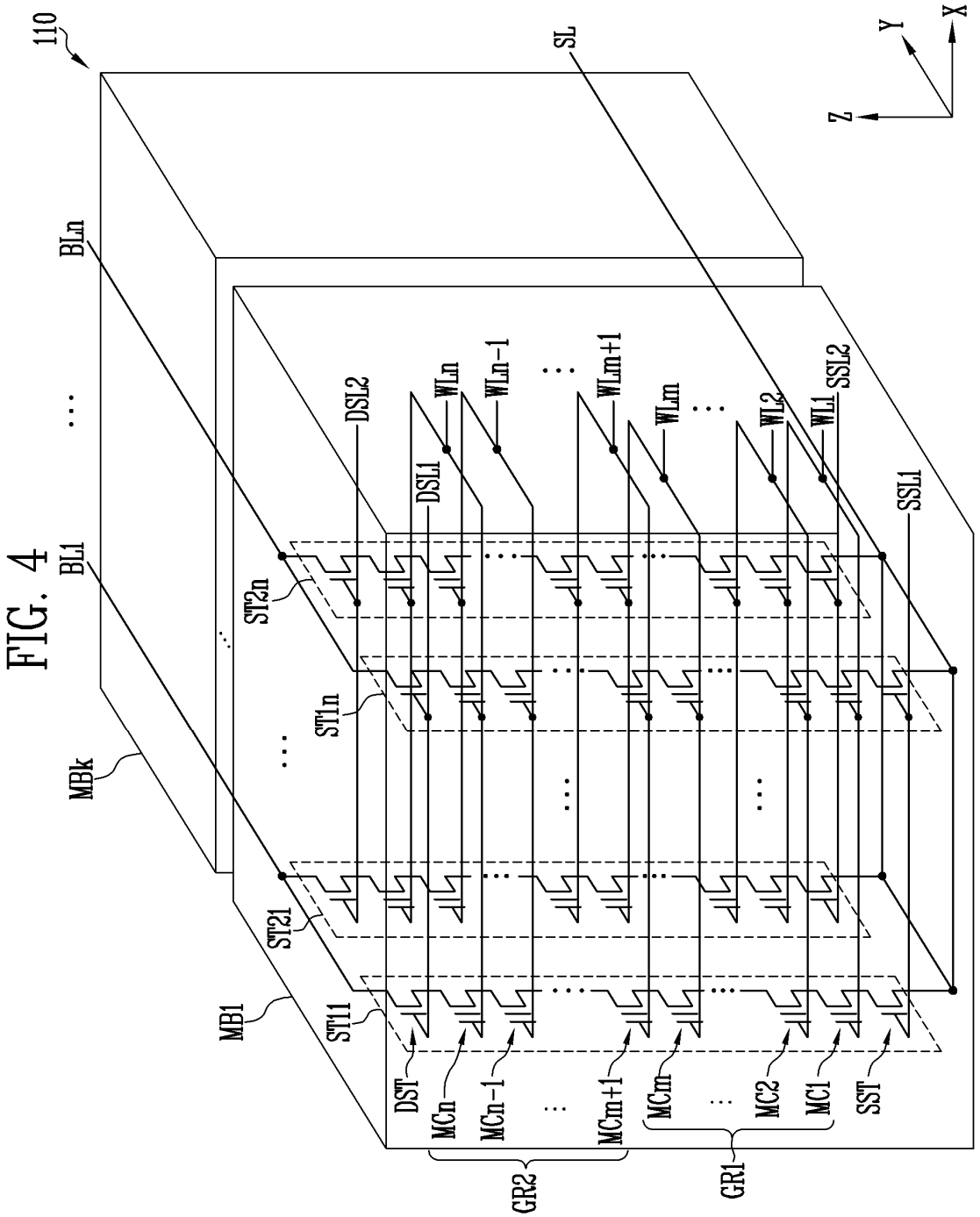

110
BLn
BL1
MBk
MB1
SL
Z
Y
X
DSL2
DSL1
WLn
WLn-1
WLm+1
WLm
WL2
WL1
SSL2
SSL1
ST2n
ST1n
ST21
ST11
DST
MCn
MCn-1
MCm+1
MCm
MC2
MC1
SST
GR2
GR1

FIG. 5

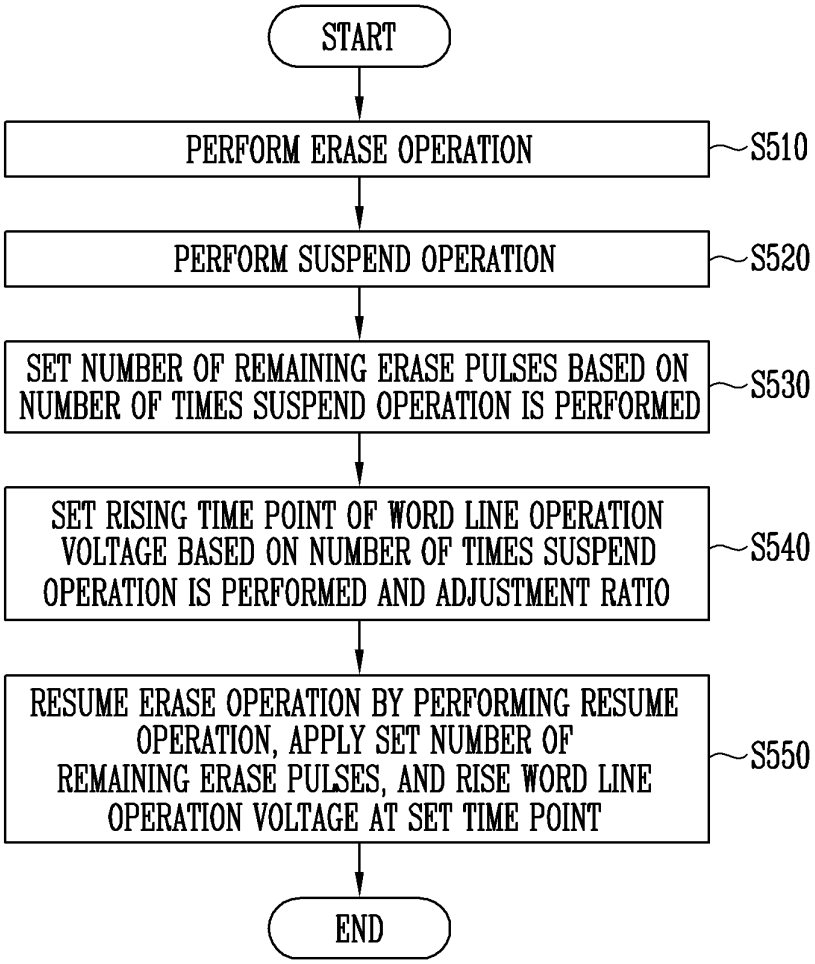

START
PERFORM ERASE OPERATION
S510
PERFORM SUSPEND OPERATION
S520
SET NUMBER OF REMAINING ERASE PULSES BASED ON NUMBER OF TIMES SUSPEND OPERATION IS PERFORMED
S530
SET RISING TIME POINT OF WORD LINE OPERATION VOLTAGE BASED ON NUMBER OF TIMES SUSPEND OPERATION IS PERFORMED AND ADJUSTMENT RATIO
S540
RESUME ERASE OPERATION BY PERFORMING RESUME OPERATION, APPLY SET NUMBER OF REMAINING ERASE PULSES, AND RISE WORD LINE OPERATION VOLTAGE AT SET TIME POINT
S550
END

FIG. 6

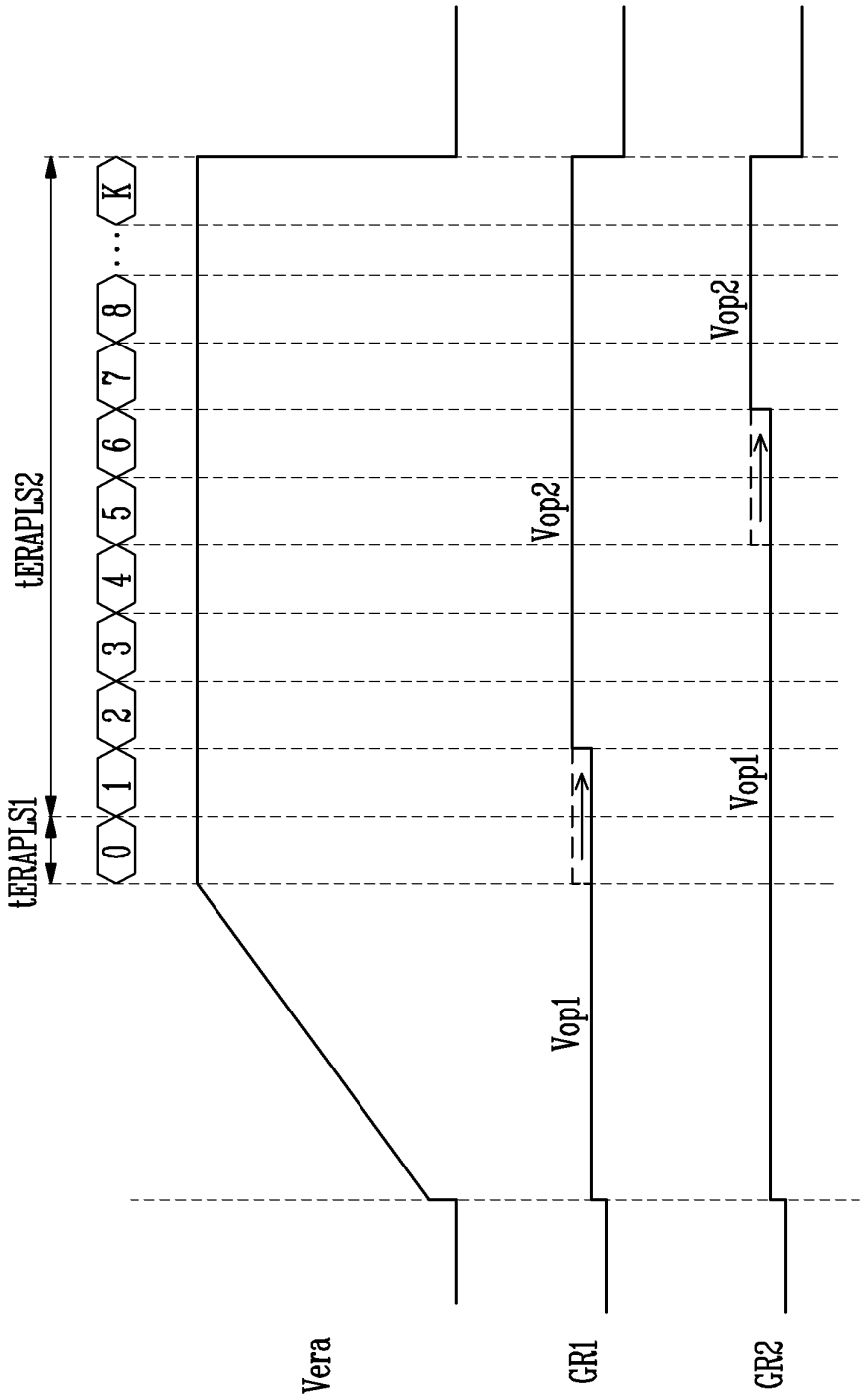

tERAPLS1
tERAPLS2
0
1
2
3
4
5
6
7
8
K
Vera
GR1
GR2
Vop1
Vop2
Vop1
Vop2

FIG. 7

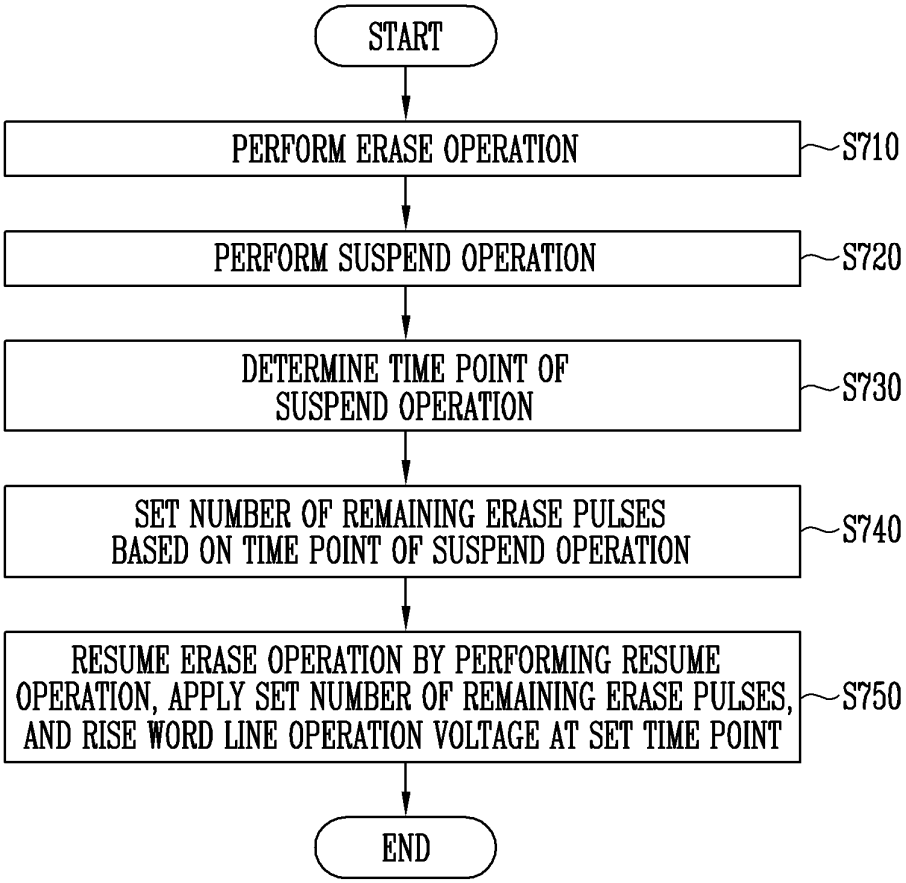


FIG. 8

TIME POINT OF SUSPEND OPERATION	ERASE CHARACTERISTIC	SUBTRACTION NUMBER ADJUSTMENT RATIO
FIRST PERIOD	normal	-
SECOND PERIOD	Deep ERS	1:1
THIRD PERIOD	Shallow ERS	4:1
FOURTH PERIOD	Deep ERS	1:1
FIFTH PERIOD	normal	1:1
SIXTH PERIOD	Shallow ERS	4:1

FIG. 9

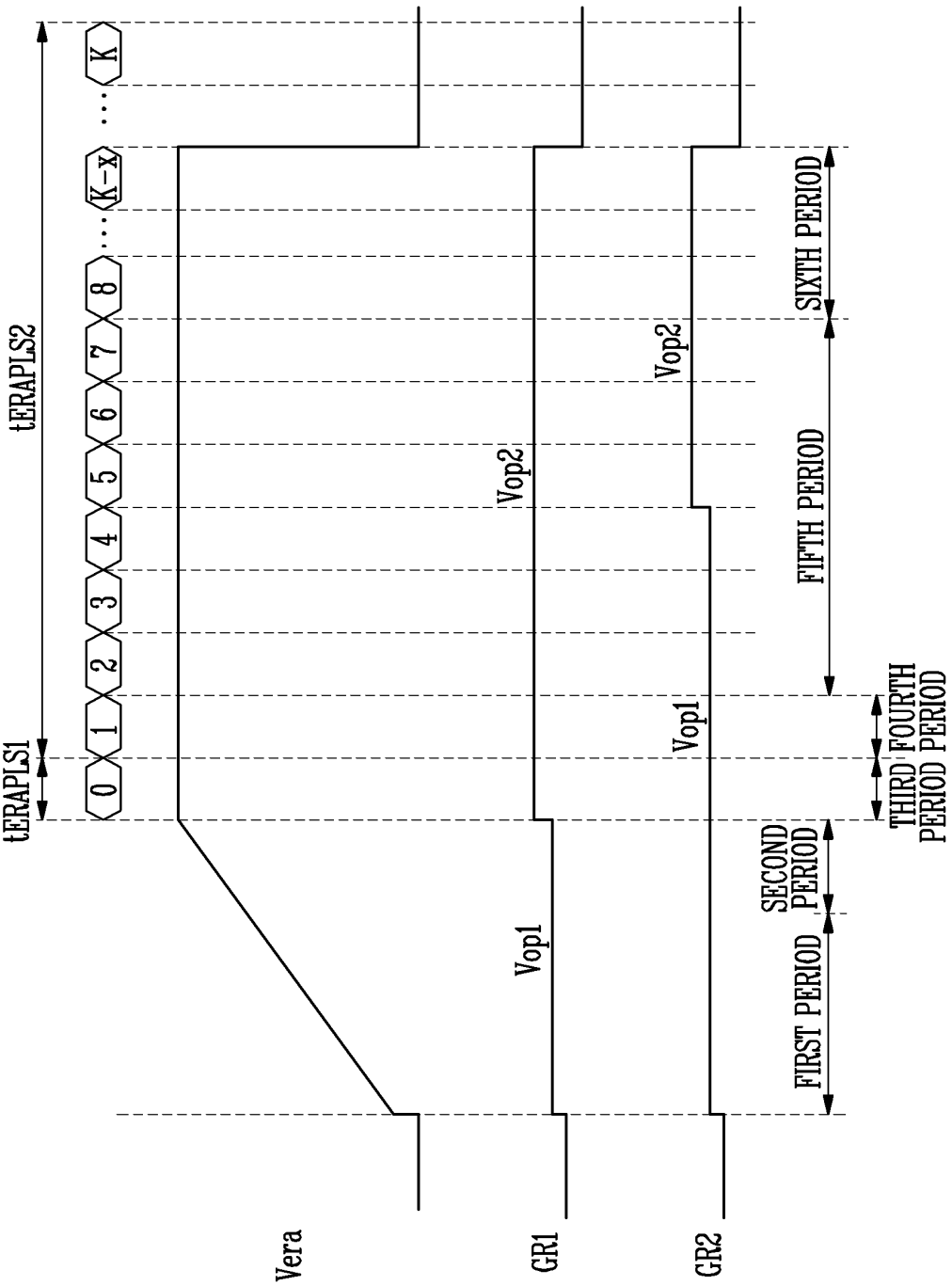

tERAPLS1
tERAPLS2
0
1
2
3
4
5
6
7
8
K-x
K
Vera
GR1
GR2
Vop1
Vop2
Vop2
Vop1
FIRST PERIOD
SECOND PERIOD
THIRD PERIOD
FOURTH PERIOD
FIFTH PERIOD
SIXTH PERIOD

FIG. 10

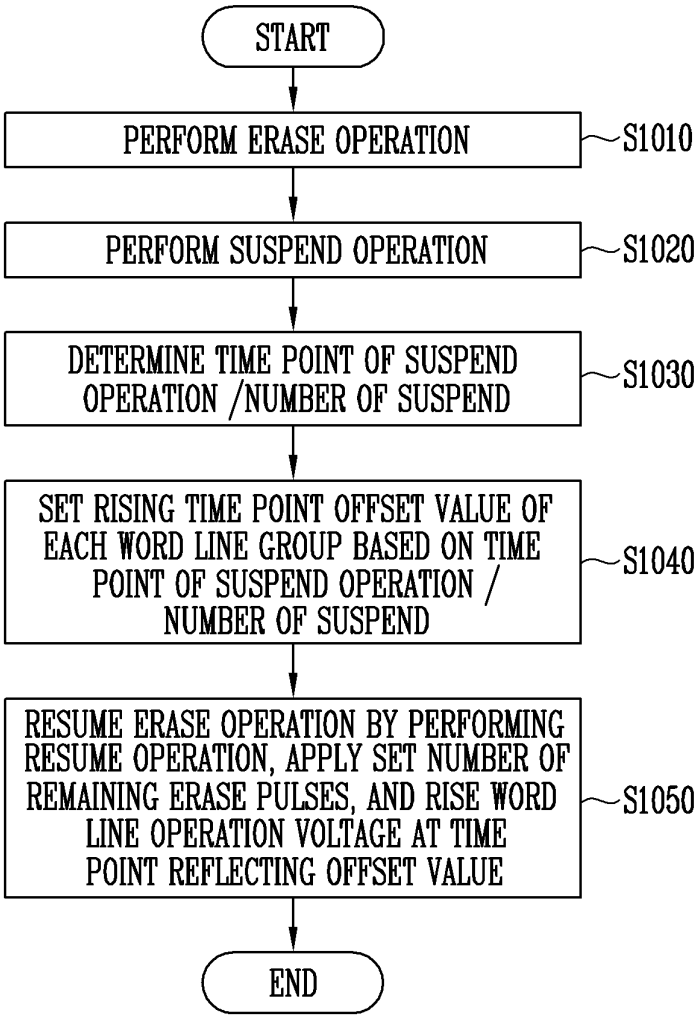

START
PERFORM ERASE OPERATION
S1010
PERFORM SUSPEND OPERATION
S1020
DETERMINE TIME POINT OF SUSPEND OPERATION /NUMBER OF SUSPEND
S1030
SET RISING TIME POINT OFFSET VALUE OF EACH WORD LINE GROUP BASED ON TIME POINT OF SUSPEND OPERATION / NUMBER OF SUSPEND
S1040
RESUME ERASE OPERATION BY PERFORMING RESUME OPERATION, APPLY SET NUMBER OF REMAINING ERASE PULSES, AND RISE WORD LINE OPERATION VOLTAGE AT TIME POINT REFLECTING OFFSET VALUE
S1050
END

FIG. 11

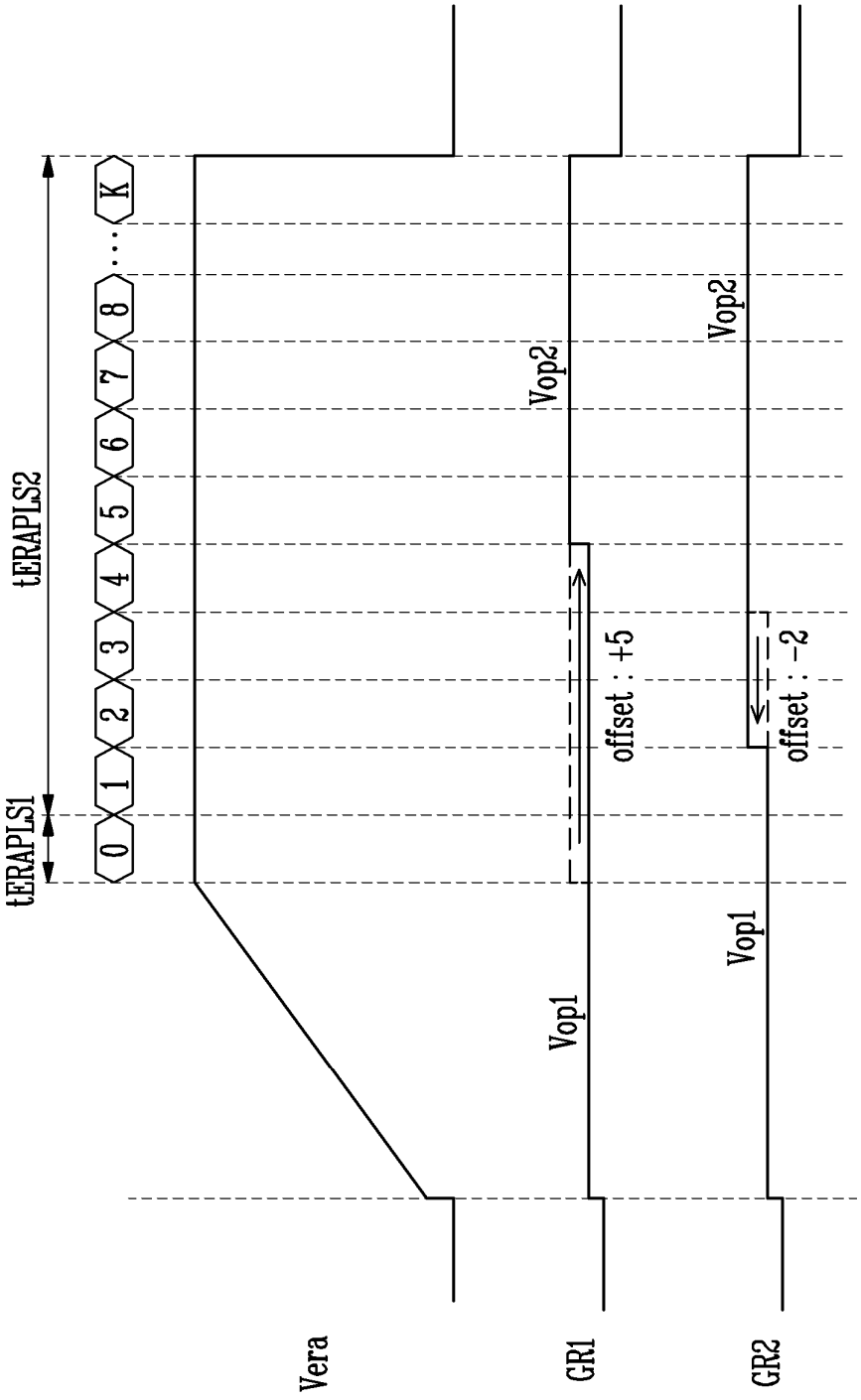

tERAPLS1
tERAPLS2
0
1
2
3
4
5
6
7
8
K
Vop2
Vop2
offset : +5
offset : -2
Vop1
Vop1
Vera
GR1
GR2

FIG. 12

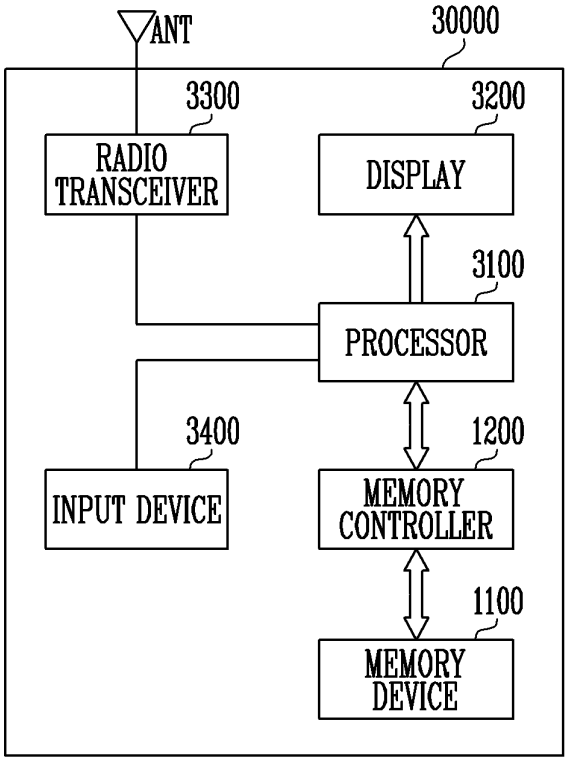

ANT
30000
3300
3200
RADIO TRANSCEIVER
DISPLAY
3100
PROCESSOR
3400
1200
INPUT DEVICE
MEMORY CONTROLLER
1100
MEMORY DEVICE

FIG. 13

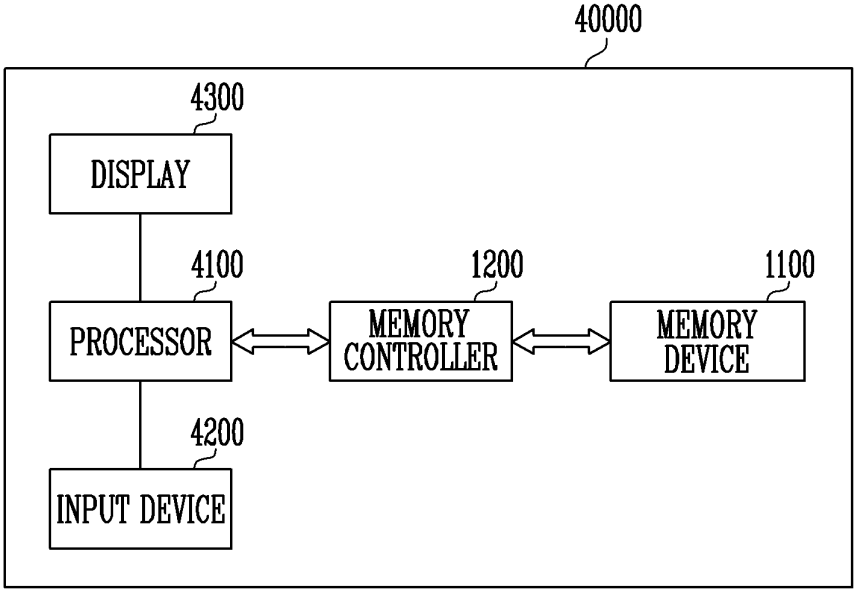

40000
4300
DISPLAY
4100
1200
1100
PROCESSOR
MEMORY CONTROLLER
MEMORY DEVICE
4200
INPUT DEVICE

FIG. 14

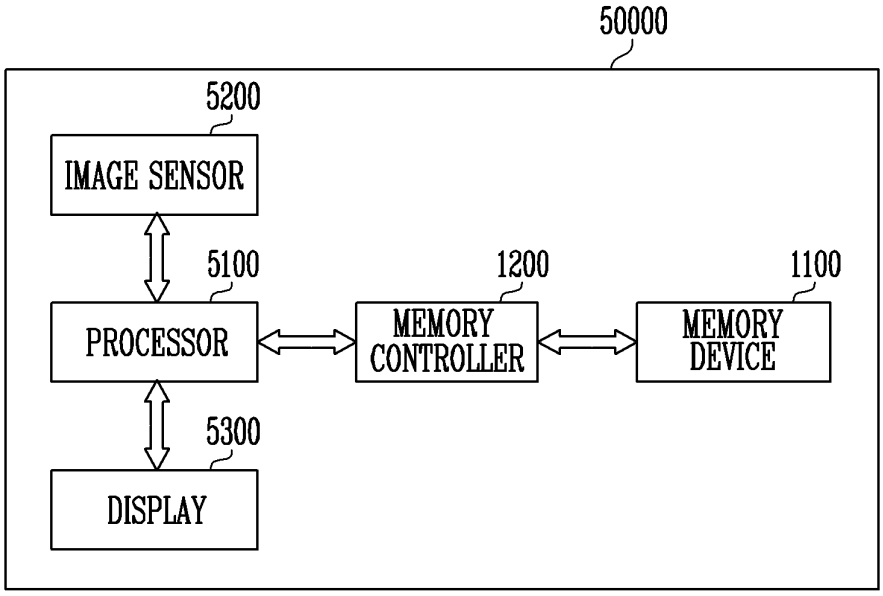
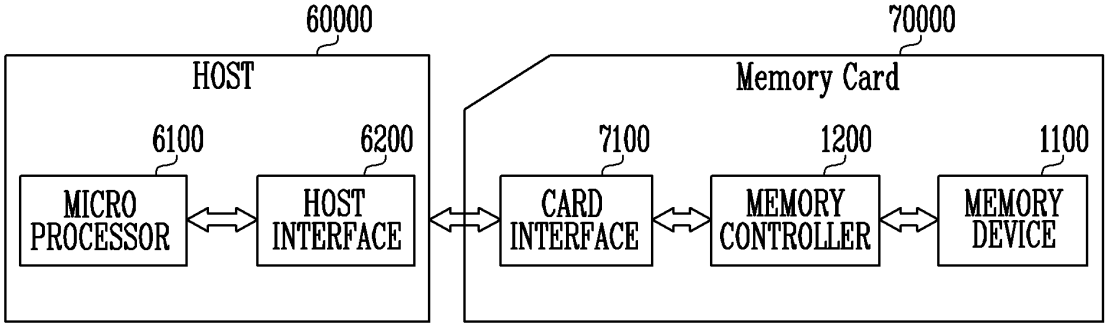

50000
5200
IMAGE SENSOR
5100
PROCESSOR
1200
MEMORY CONTROLLER
1100
MEMORY DEVICE
5300
DISPLAY

FIG. 15


60000
HOST
6100
MICRO PROCESSOR
6200
HOST INTERFACE
70000
Memory Card
7100
CARD INTERFACE
1200
MEMORY CONTROLLER
1100
MEMORY DEVICE