FIG.1

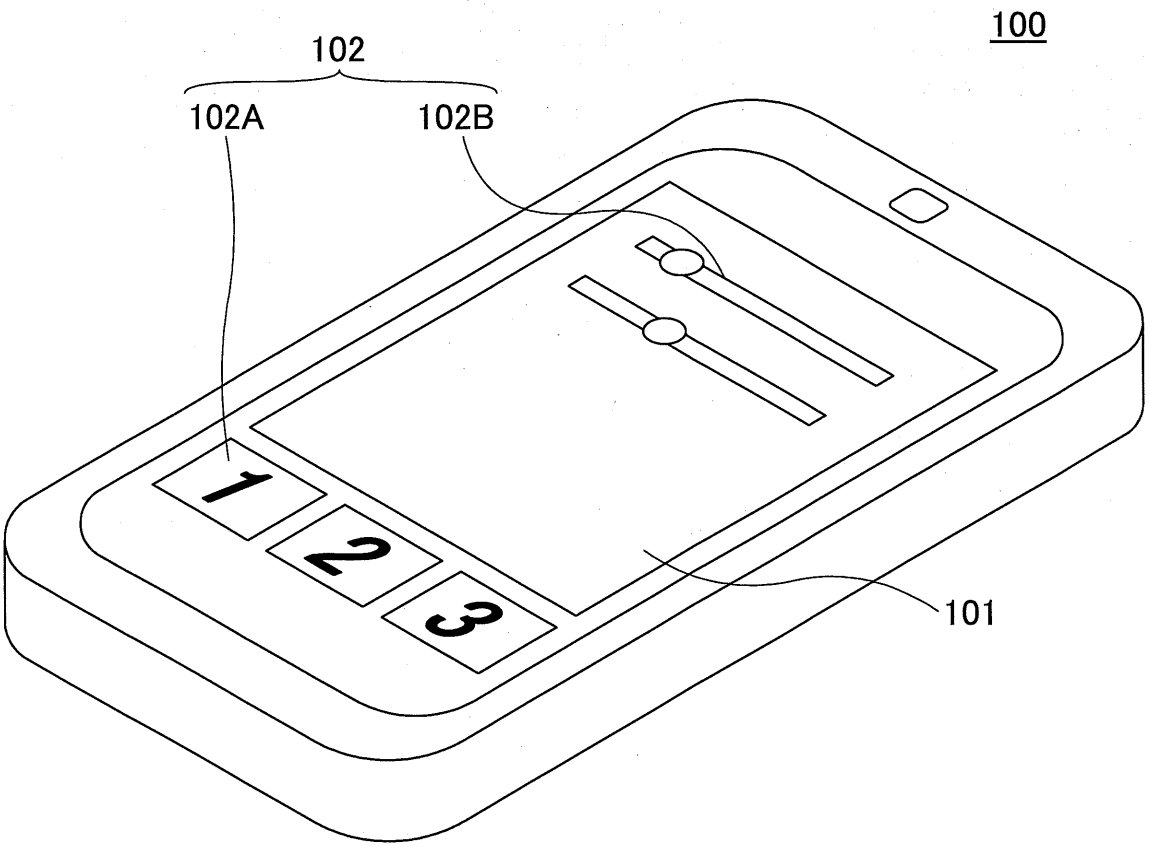


FIG.2

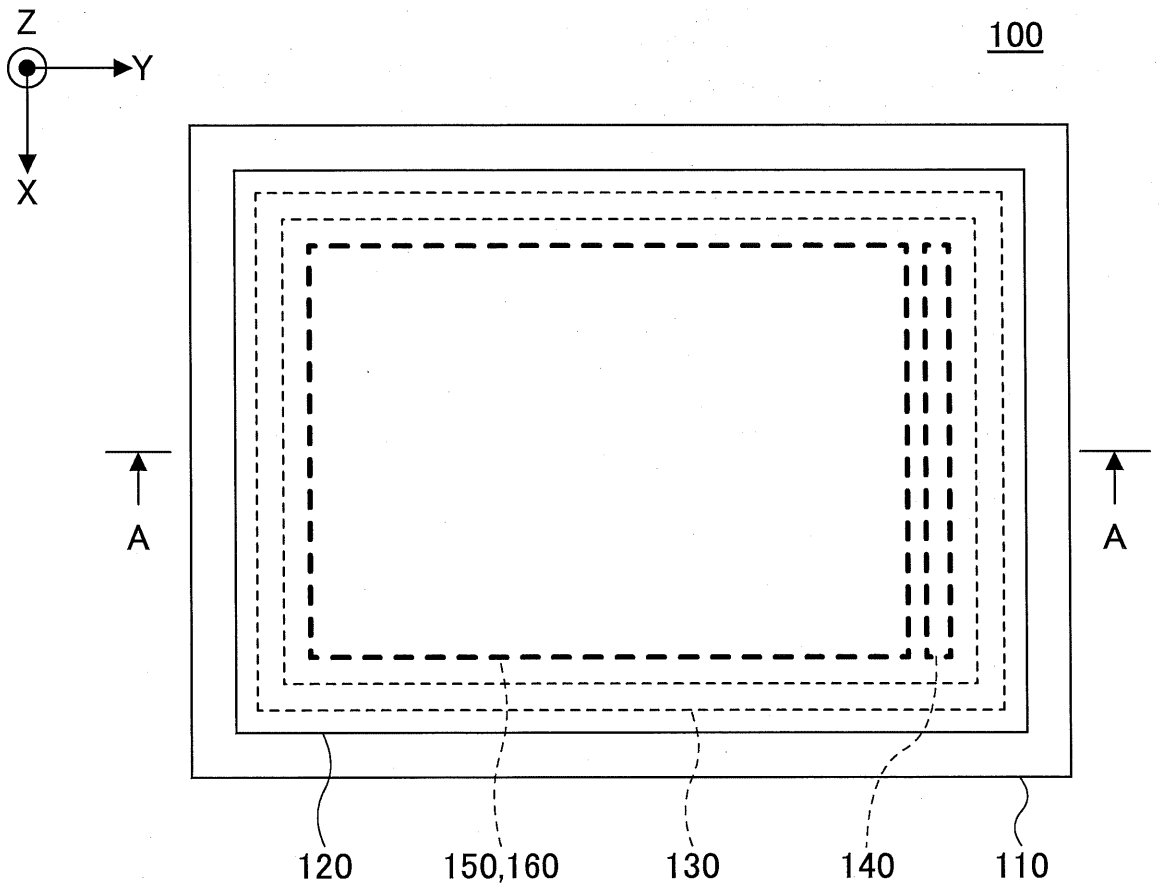


FIG.3

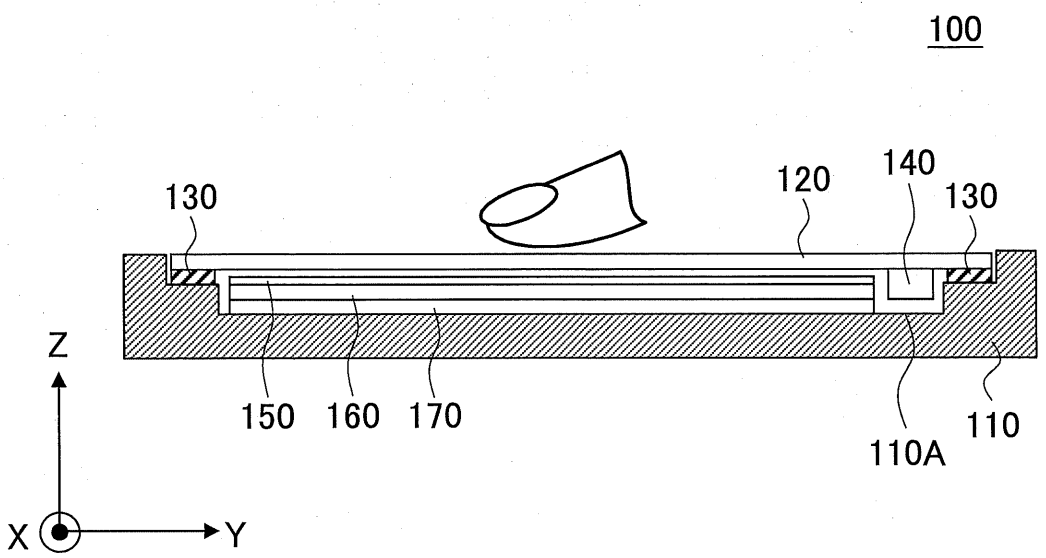


FIG.4

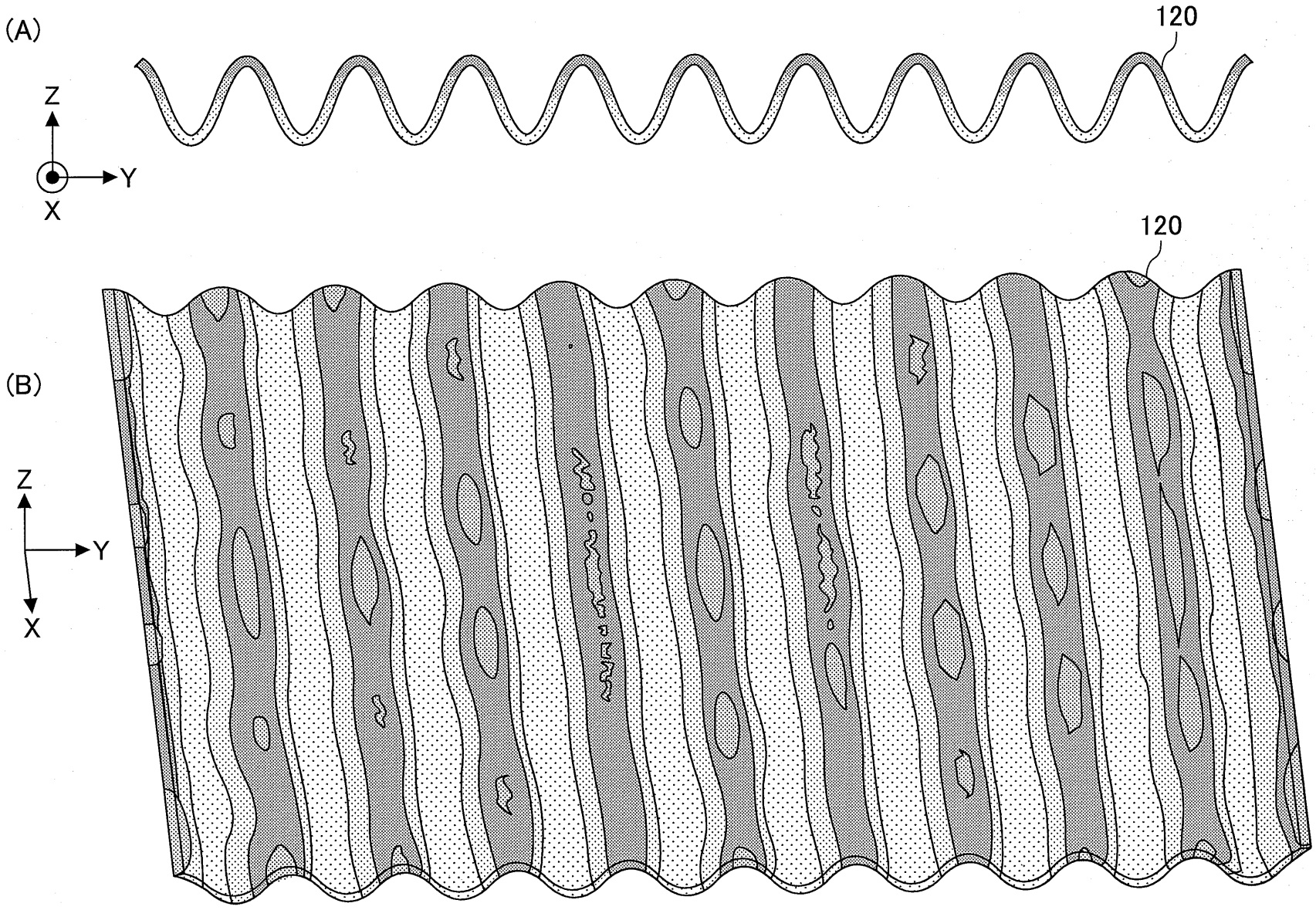
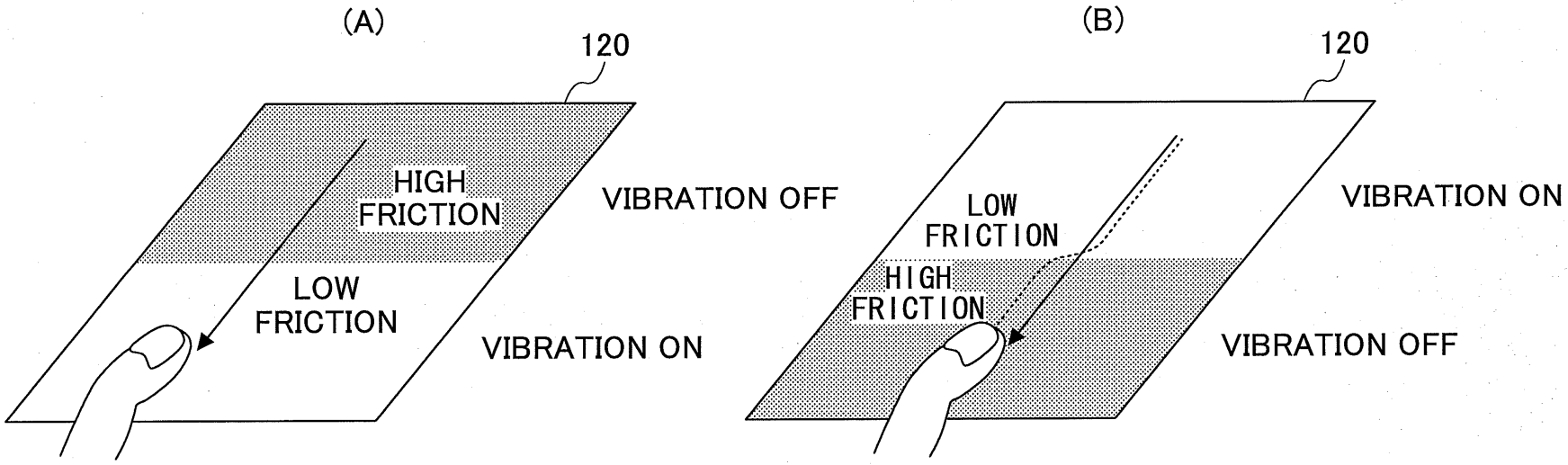


FIG.5


(A)
120
HIGH FRICTION
VIBRATION OFF
LOW FRICTION
VIBRATION ON
(B)
120
LOW FRICTION
VIBRATION ON
HIGH FRICTION
VIBRATION OFF

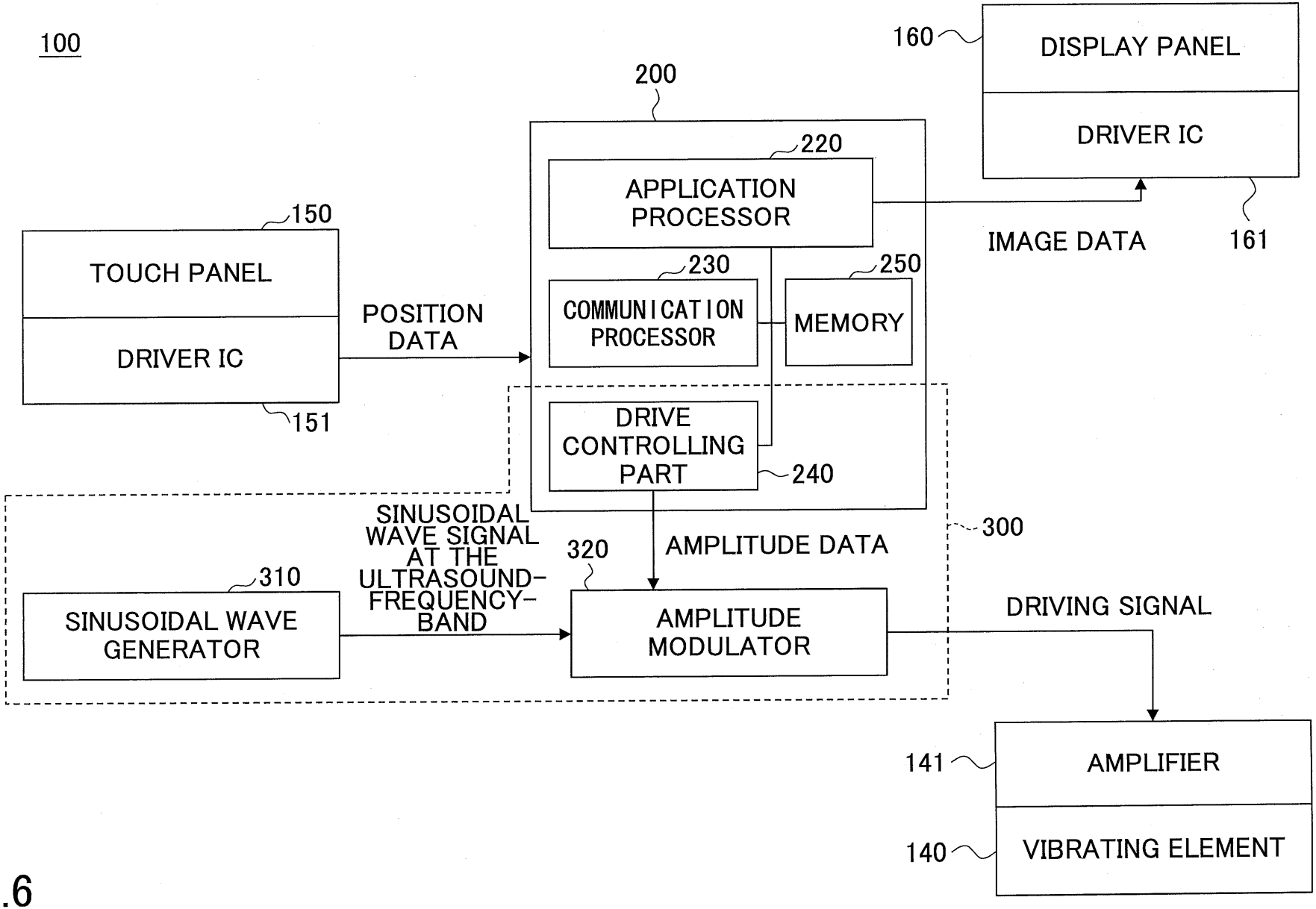

100
160
DISPLAY PANEL
DRIVER IC
200
220
APPLICATION PROCESSOR
IMAGE DATA
161
150
TOUCH PANEL
DRIVER IC
151
POSITION DATA
230
COMMUNICATION PROCESSOR
250
MEMORY
DRIVE CONTROLLING PART
240
300
SINUSOIDAL WAVE SIGNAL AT THE ULTRASOUND-FREQUENCY-BAND
320
AMPLITUDE DATA
310
SINUSOIDAL WAVE GENERATOR
AMPLITUDE MODULATOR
DRIVING SIGNAL
141
AMPLIFIER
140
VIBRATING ELEMENT

FIG.6

FIG.7

(A)

MOVING SPEED	AMPLITUDE VALUE
0≦V＜b1	0
b1≦V＜b2	A1
b2≦V＜b3	A2

(B)

APPLICATION ID	AREA DATA	VIBRATION PATTERN
1	f1=(X,Y)	P1
1	f2=(X,Y)	P2
1	f3=(X,Y)	P3
1	f4=(X,Y)	P4

FIG.8

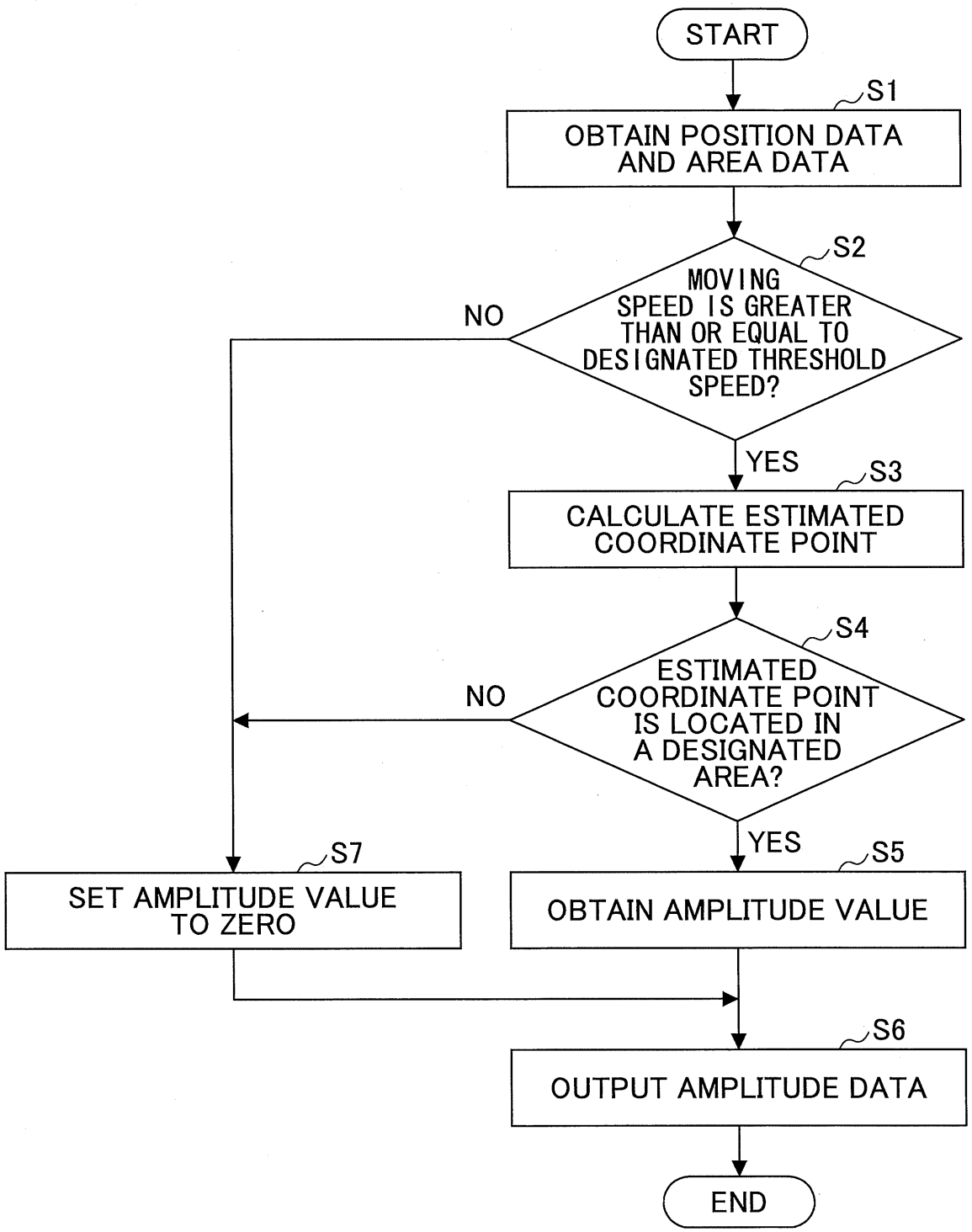

START
S1
OBTAIN POSITION DATA AND AREA DATA
S2
MOVING SPEED IS GREATER THAN OR EQUAL TO DESIGNATED THRESHOLD SPEED?
NO
YES
S3
CALCULATE ESTIMATED COORDINATE POINT
S4
ESTIMATED COORDINATE POINT IS LOCATED IN A DESIGNATED AREA?
NO
YES
S7
SET AMPLITUDE VALUE TO ZERO
S5
OBTAIN AMPLITUDE VALUE
S6
OUTPUT AMPLITUDE DATA
END

FIG.9

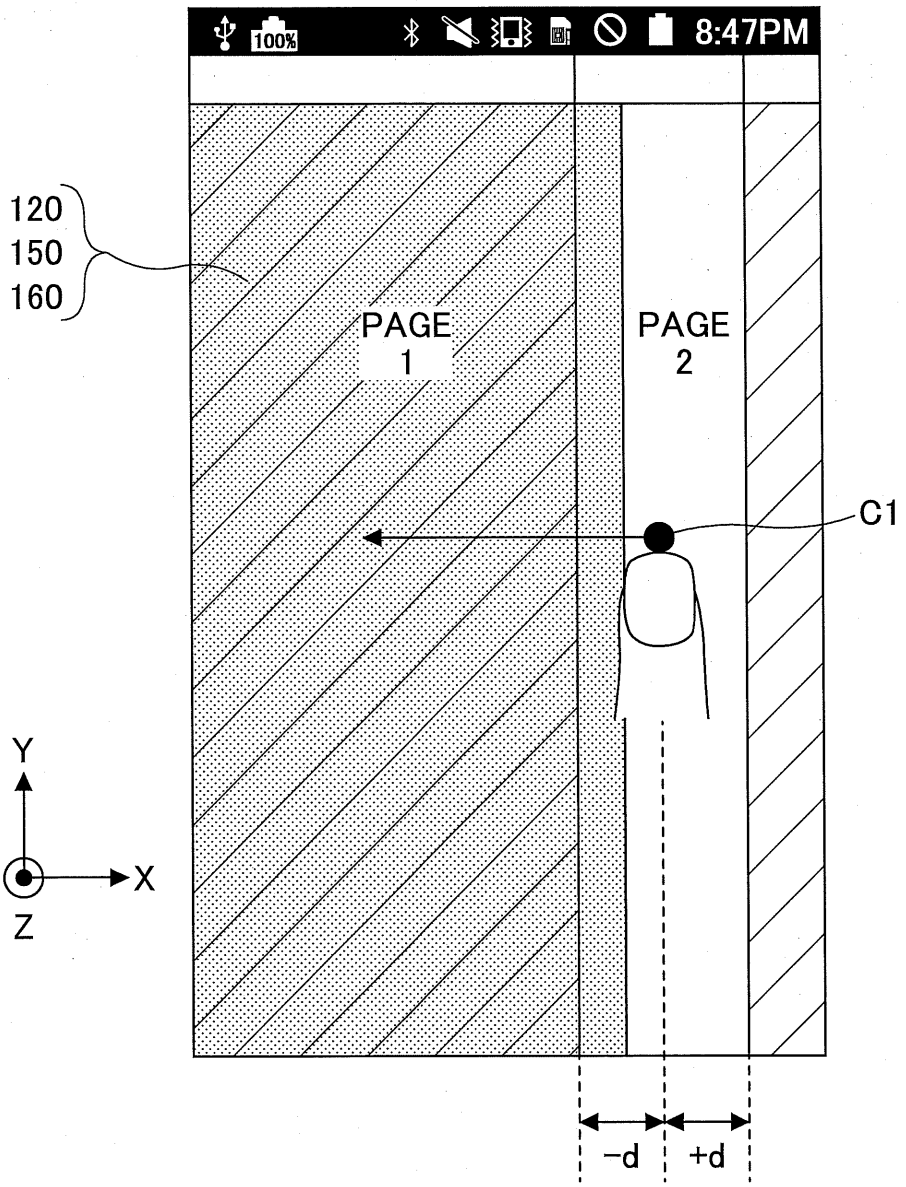


FIG.10

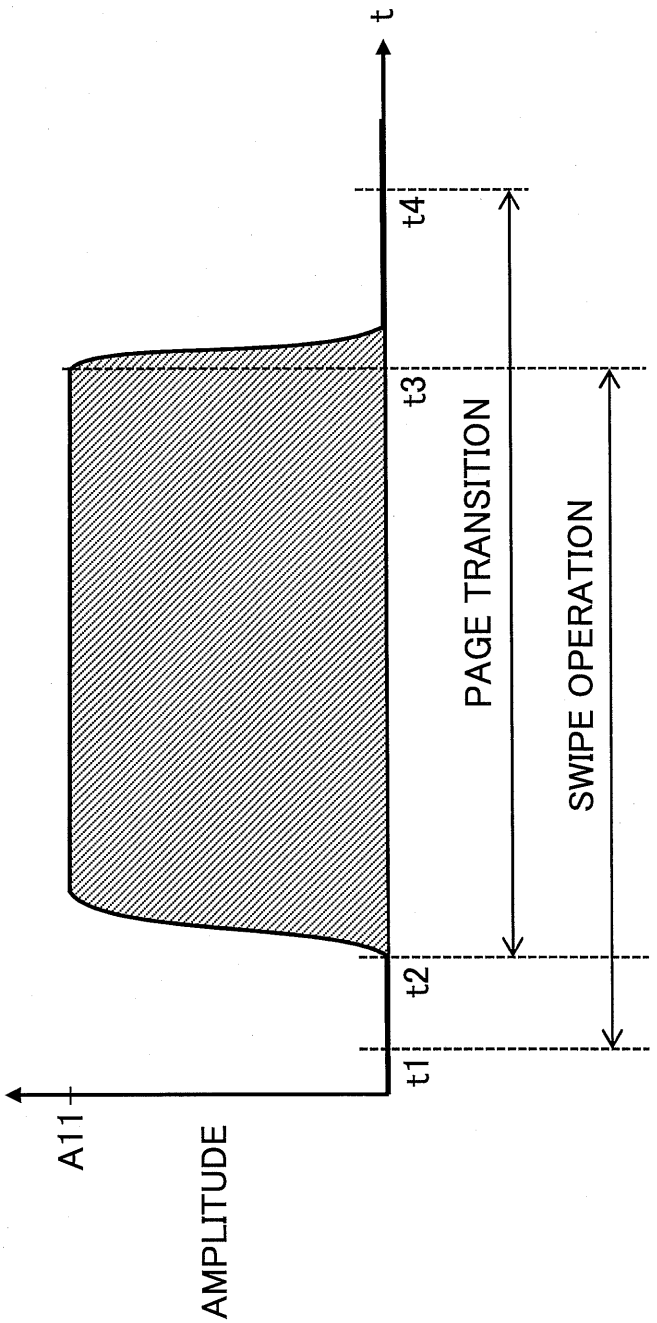


FIG.11

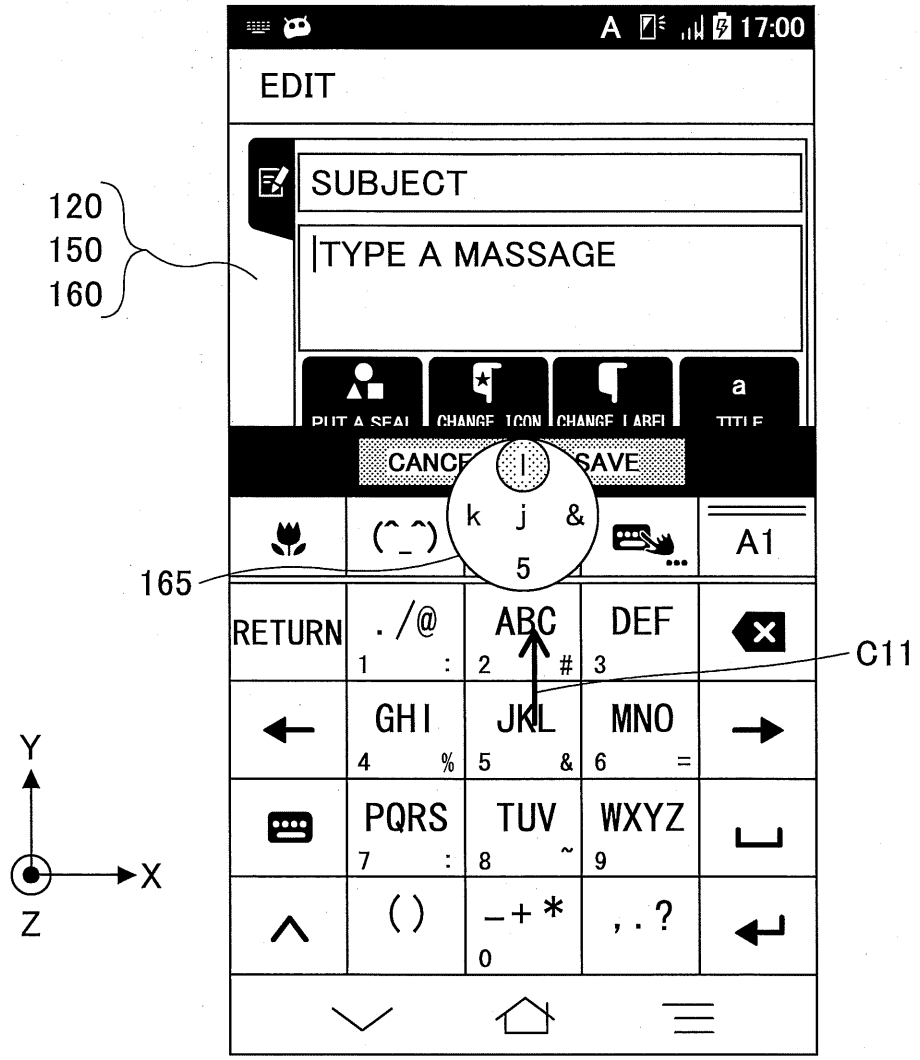

120
150
160
165
C11
A 17:00
EDIT
SUBJECT
TYPE A MASSAGE
PUT A SEAL
CHANGE ICON
CHANGE LABEL
TITLE
CANCEL
SAVE
(^_^)
k j &
5
A1
RETURN
. /@
1 :
ABC
2 #
3
DEF
GHI
4 %
JKL
5 &
6 =
MNO
PQRS
7 :
TUV
8 ~
9
WXYZ
( )
0
, . ?
Y
X
Z

FIG.12

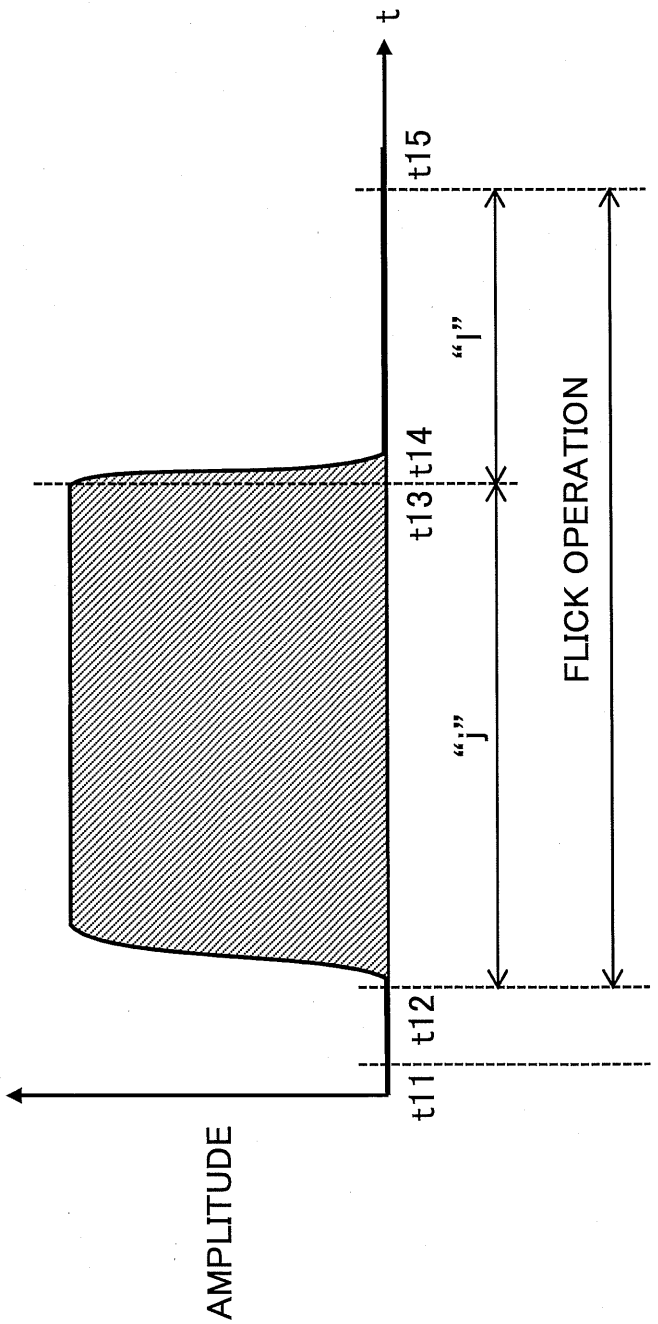


FIG.13

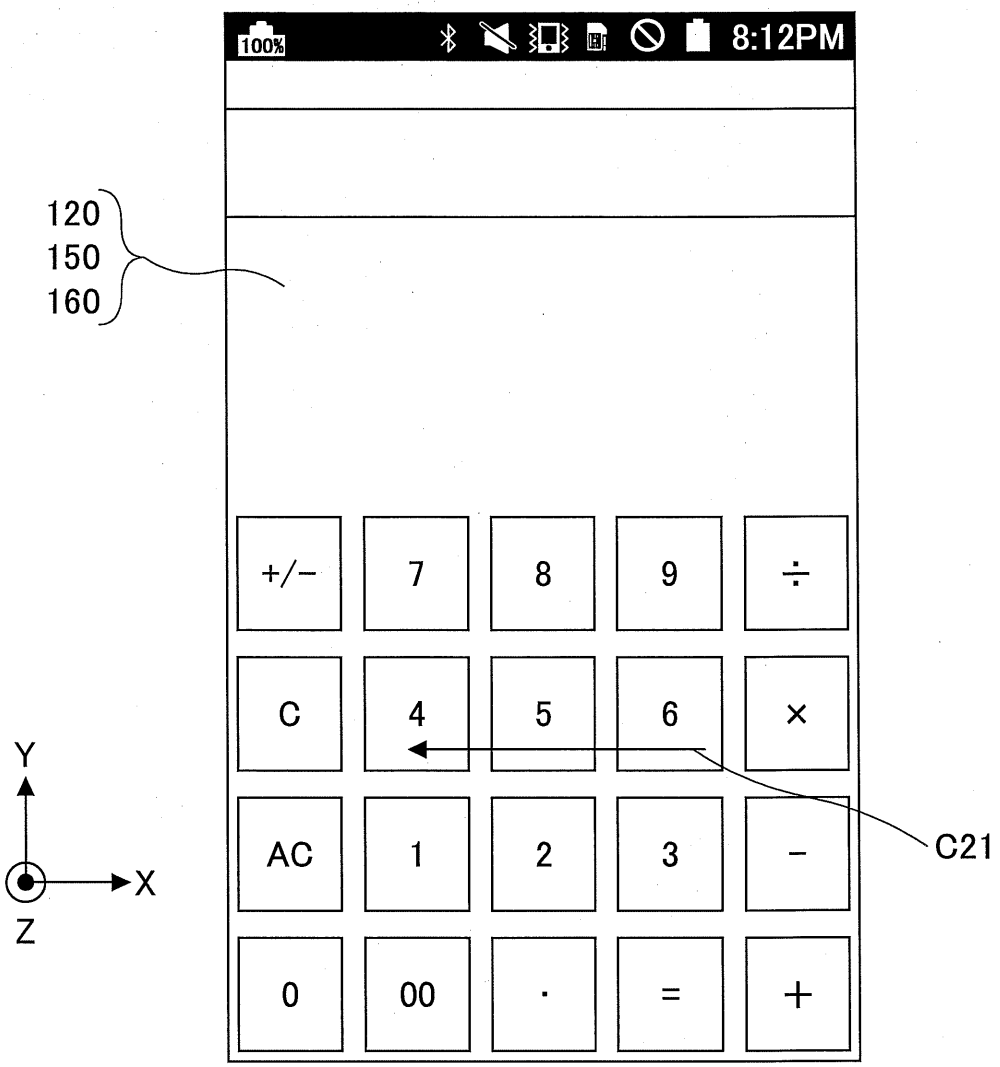
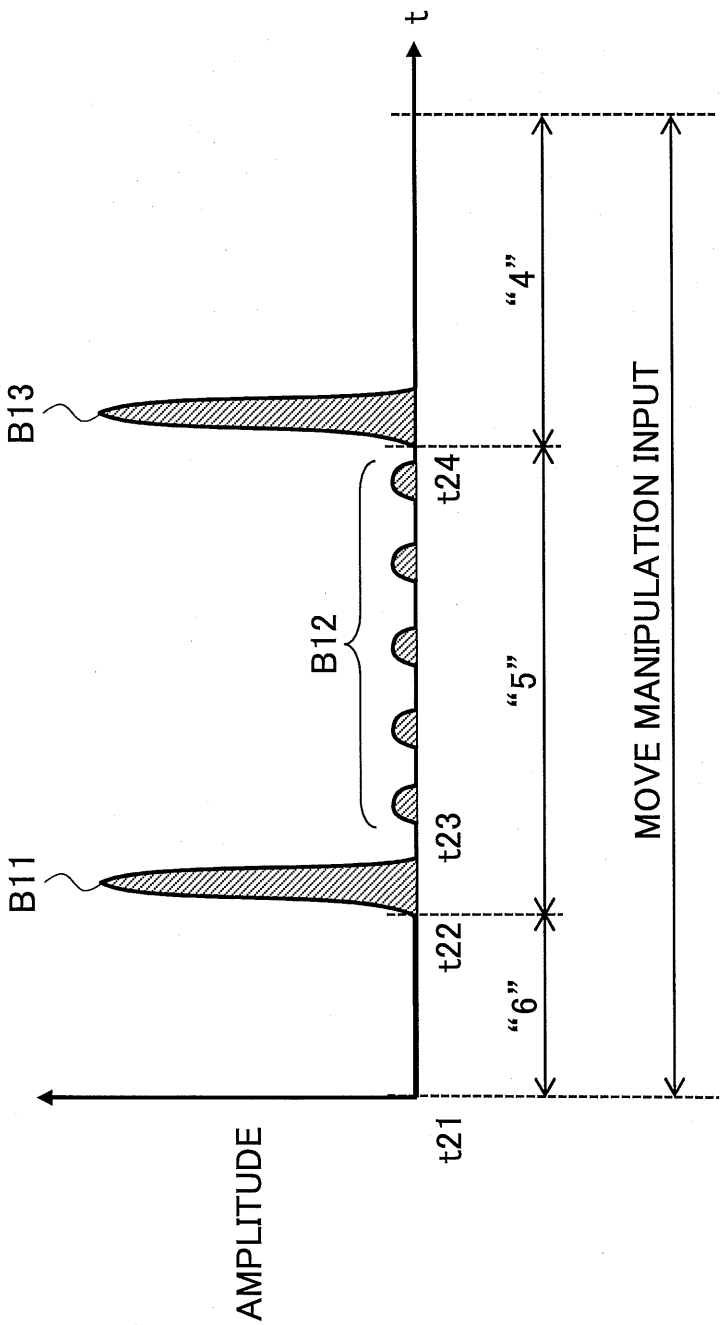


FIG.14


t
B13
B12
B11
t24
t23
t22
t21
"4"
"5"
"6"
MOVE MANIPULATION INPUT
AMPLITUDE