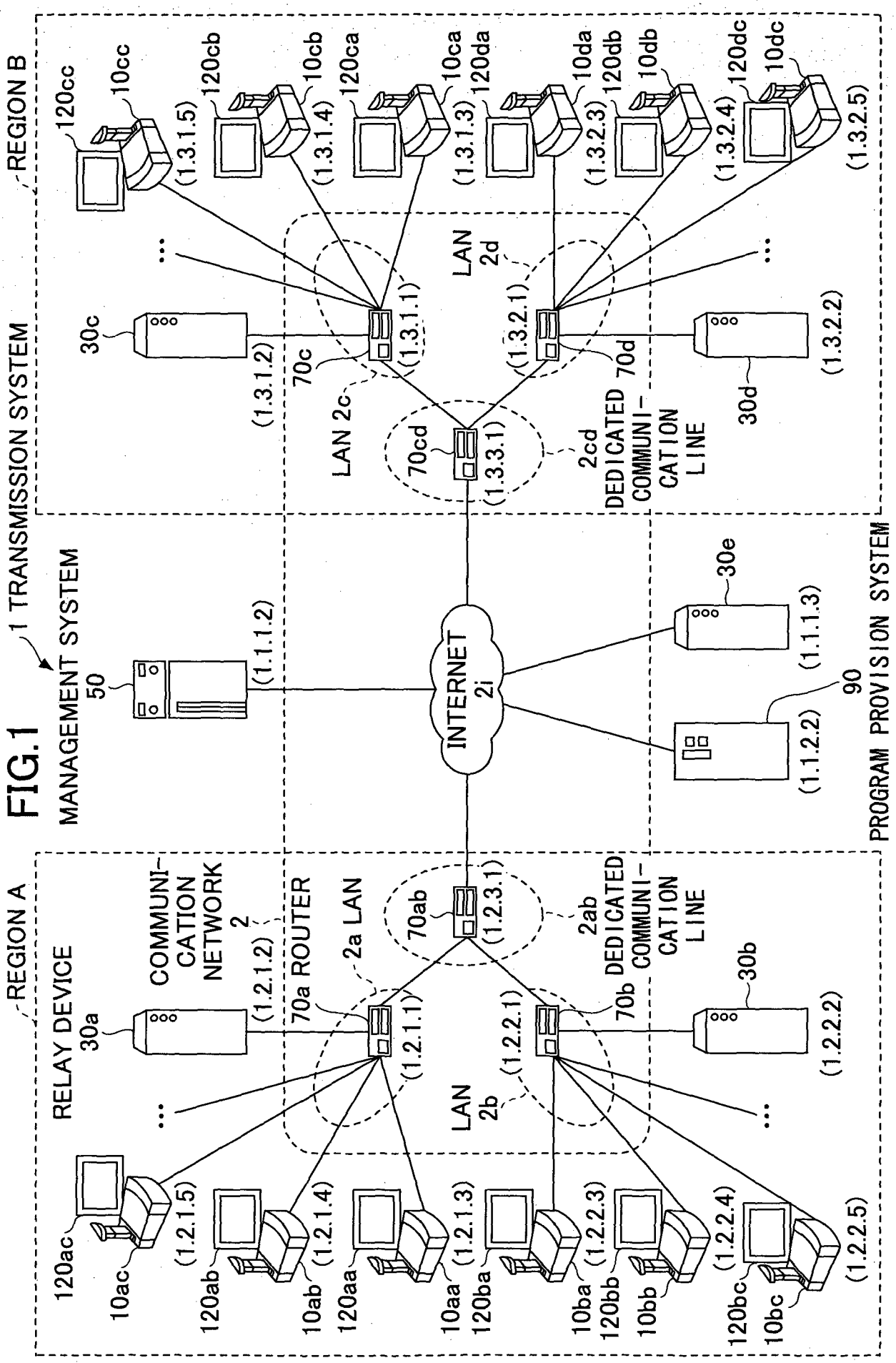
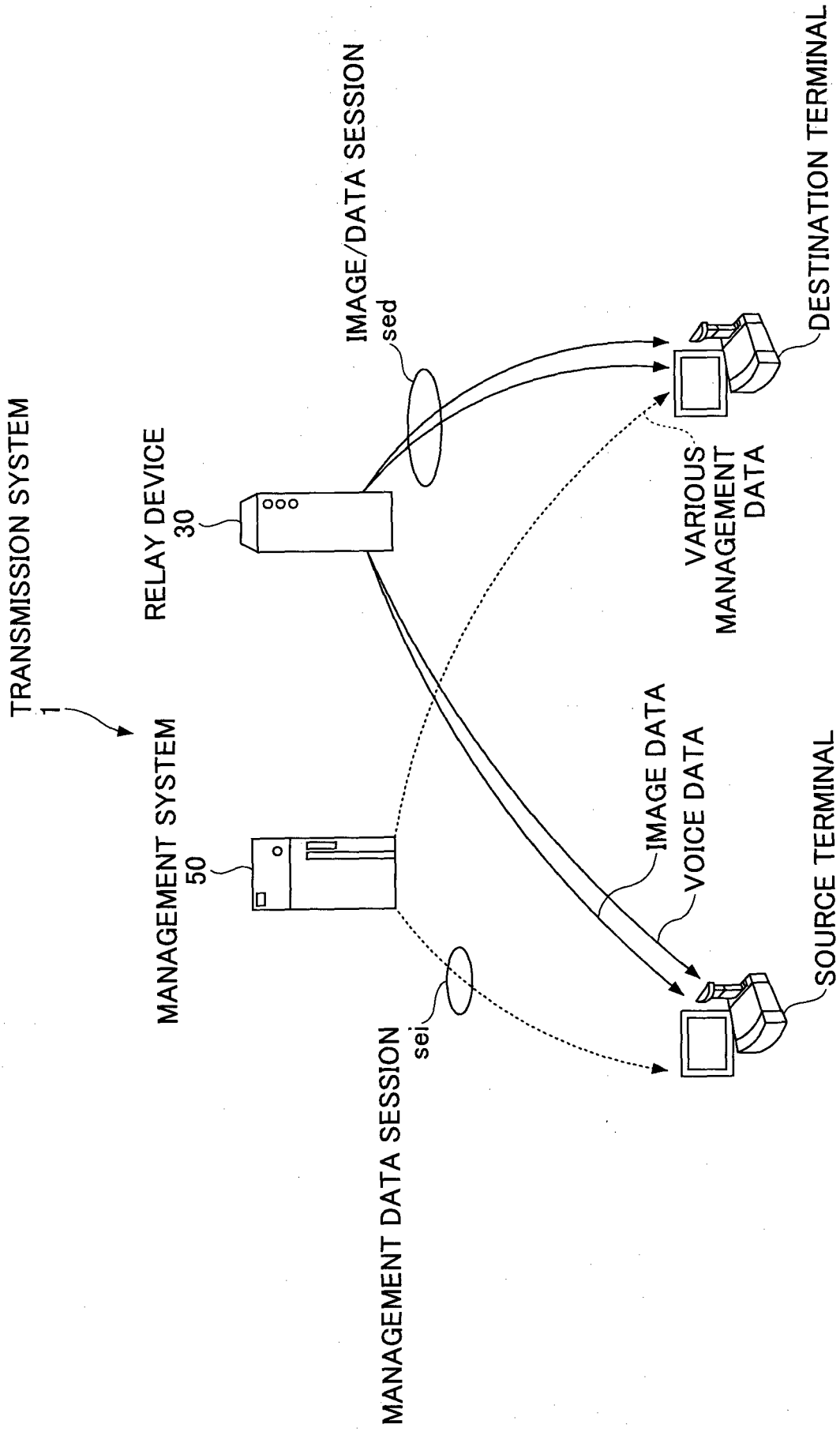

1 TRANSMISSION SYSTEM
MANAGEMENT SYSTEM
50
(1.1.1.2)
INTERNET
2i
30e
(1.1.1.3)
90
(1.1.2.2)
PROGRAM PROVISION SYSTEM
REGION A
RELAY DEVICE
30a
COMMUNI-
CATION
NETWORK
2
(1.2.1.2)
70a ROUTER
2a LAN
70ab
(1.2.3.1)
2ab
DEDICATED
COMMUNI-
CATION
LINE
70b
30b
(1.2.2.2)
(1.2.1.1)
(1.2.2.1)
LAN
2b
120ac
10ac
(1.2.1.5)
120ab
10ab
(1.2.1.4)
120aa
10aa
(1.2.1.3)
120ba
10ba
(1.2.2.3)
120bb
10bb
(1.2.2.4)
120bc
10bc
(1.2.2.5)
REGION B
120cc
10cc
(1.3.1.5)
120cb
10cb
(1.3.1.4)
120ca
10ca
(1.3.1.3)
120da
10da
(1.3.2.3)
120db
10db
(1.3.2.4)
120dc
10dc
(1.3.2.5)
30c
(1.3.1.2)
70c
(1.3.1.1)
LAN 2c
LAN
2d
(1.3.2.1)
70d
30d
(1.3.2.2)
70cd
(1.3.3.1)
2cd
DEDICATED
COMMUNI-
CATION
LINE

FIG.1

FIG.2


TRANSMISSION SYSTEM
1
RELAY DEVICE
30
MANAGEMENT SYSTEM
50
IMAGE/DATA SESSION
sed
MANAGEMENT DATA SESSION
sei
DESTINATION TERMINAL
VARIOUS MANAGEMENT DATA
IMAGE DATA
VOICE DATA
SOURCE TERMINAL

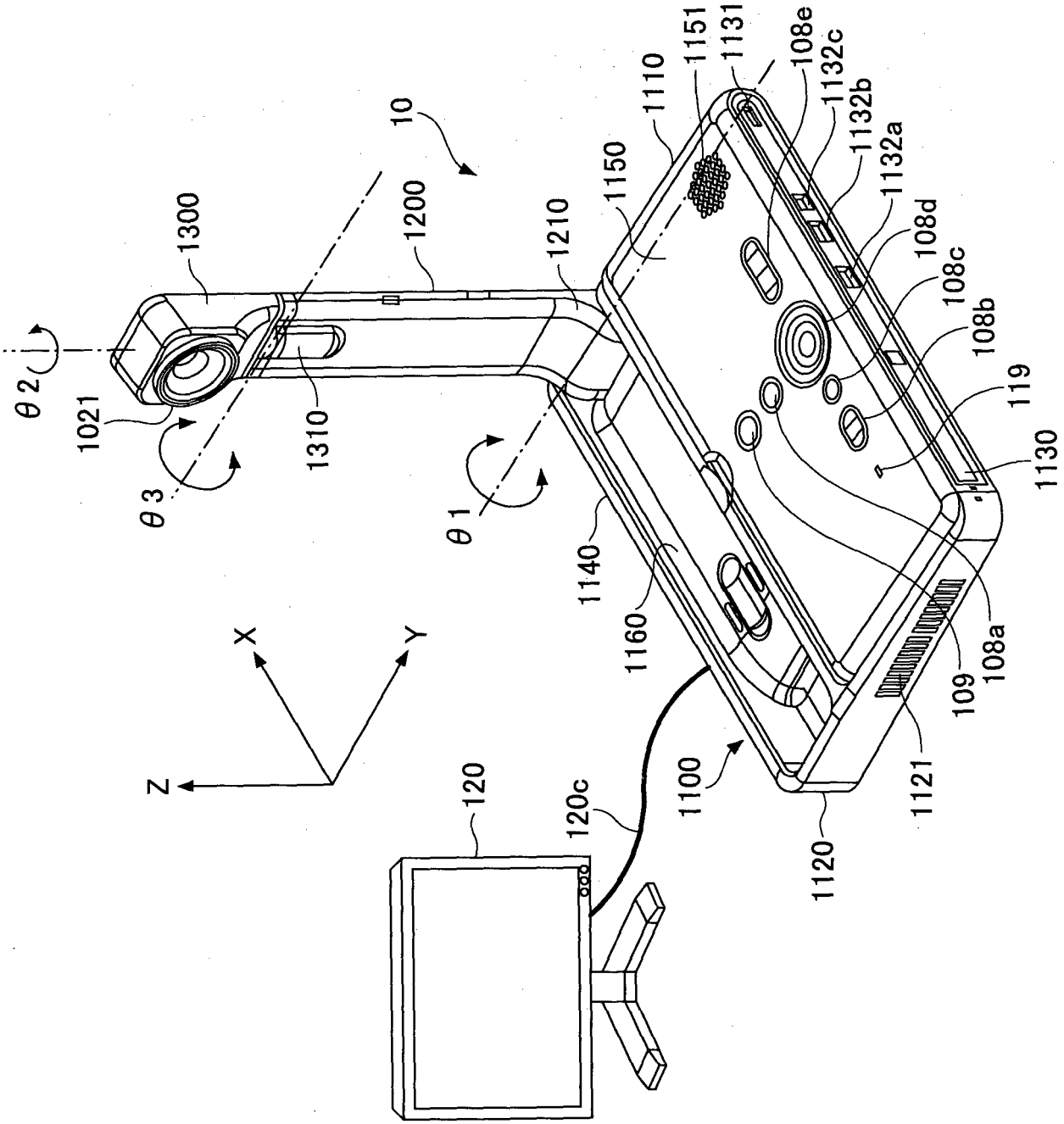

10
1300
1200
1210
1150
1110
1151
1131
108e
1132c
1132b
1132a
108d
108c
108b
119
1130
108a
109
1121
1120
1100
1160
1140
1310
1021
θ2
θ3
θ1
X
Y
Z
120
120c

FIG.3

FIG.4

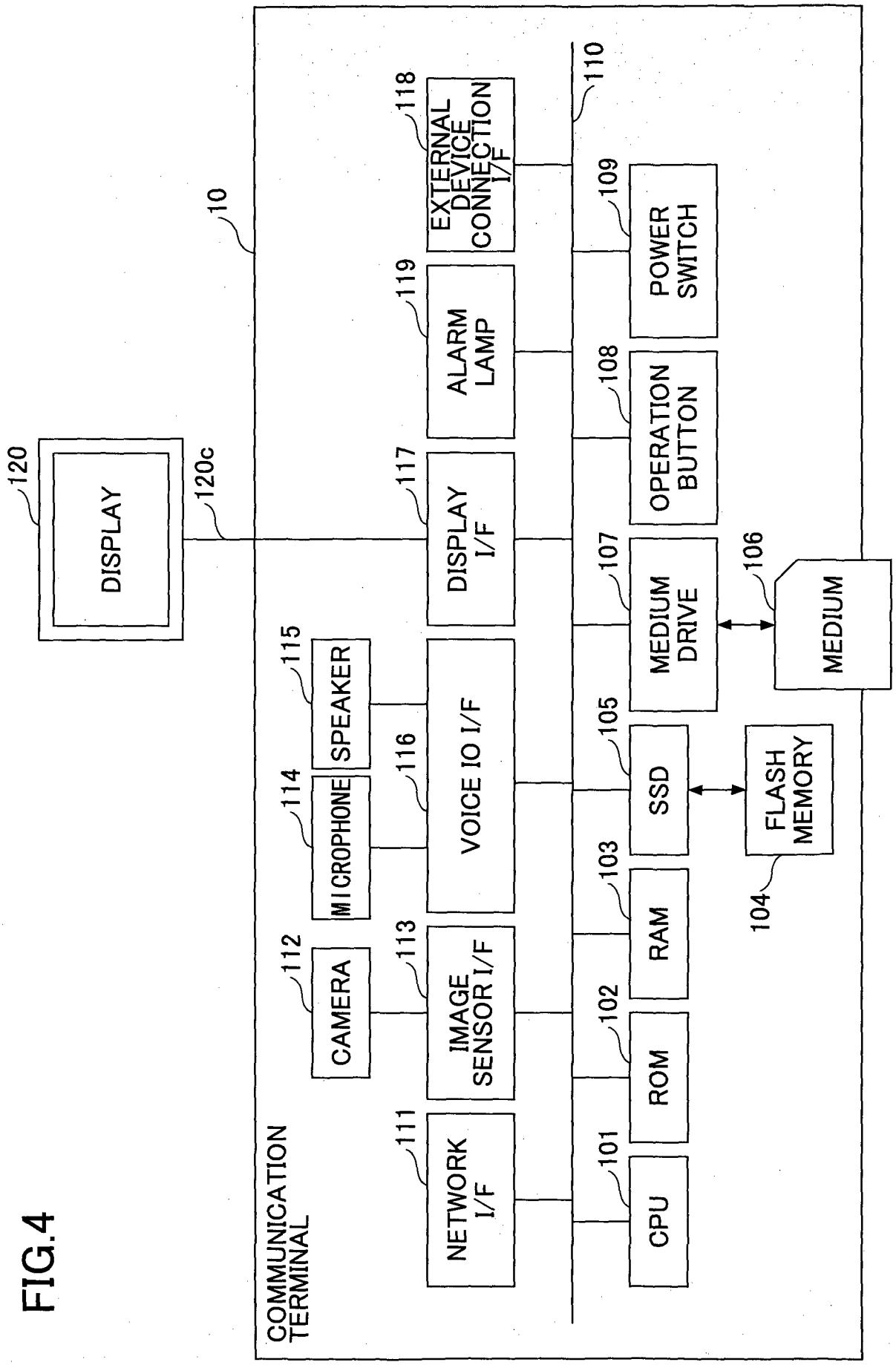
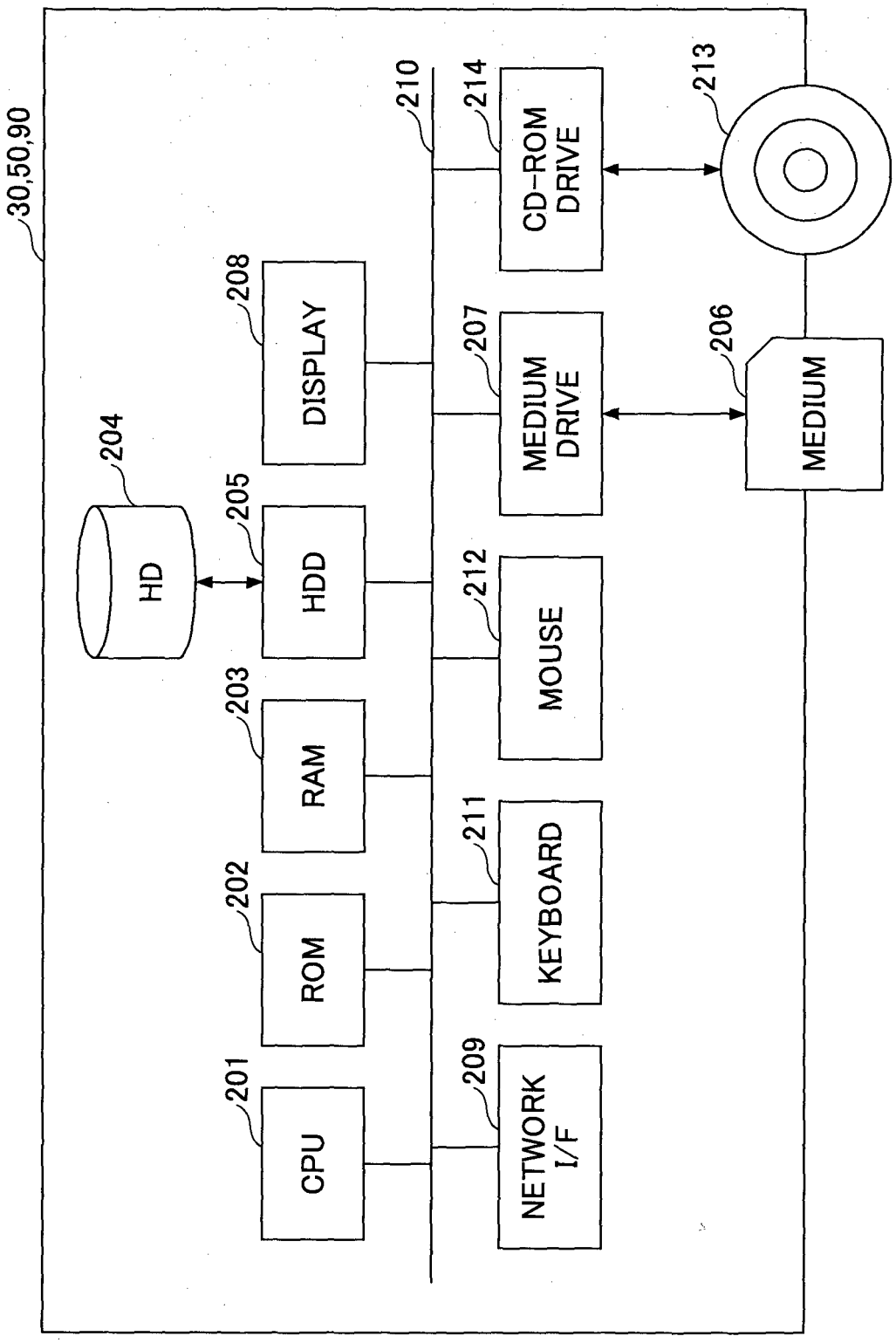

COMMUNICATION TERMINAL
10
DISPLAY
120
120c
NETWORK I/F
111
CAMERA
112
IMAGE SENSOR I/F
113
MICROPHONE
114
SPEAKER
115
VOICE IO I/F
116
DISPLAY I/F
117
ALARM LAMP
119
EXTERNAL DEVICE CONNECTION I/F
118
110
CPU
101
ROM
102
RAM
103
SSD
105
FLASH MEMORY
104
MEDIUM DRIVE
107
MEDIUM
106
OPERATION BUTTON
108
POWER SWITCH
109

FIG.5


30,50,90
201
CPU
202
ROM
203
RAM
204
HD
205
HDD
208
DISPLAY
209
NETWORK I/F
210
211
KEYBOARD
212
MOUSE
207
MEDIUM DRIVE
214
CD-ROM DRIVE
206
MEDIUM
213

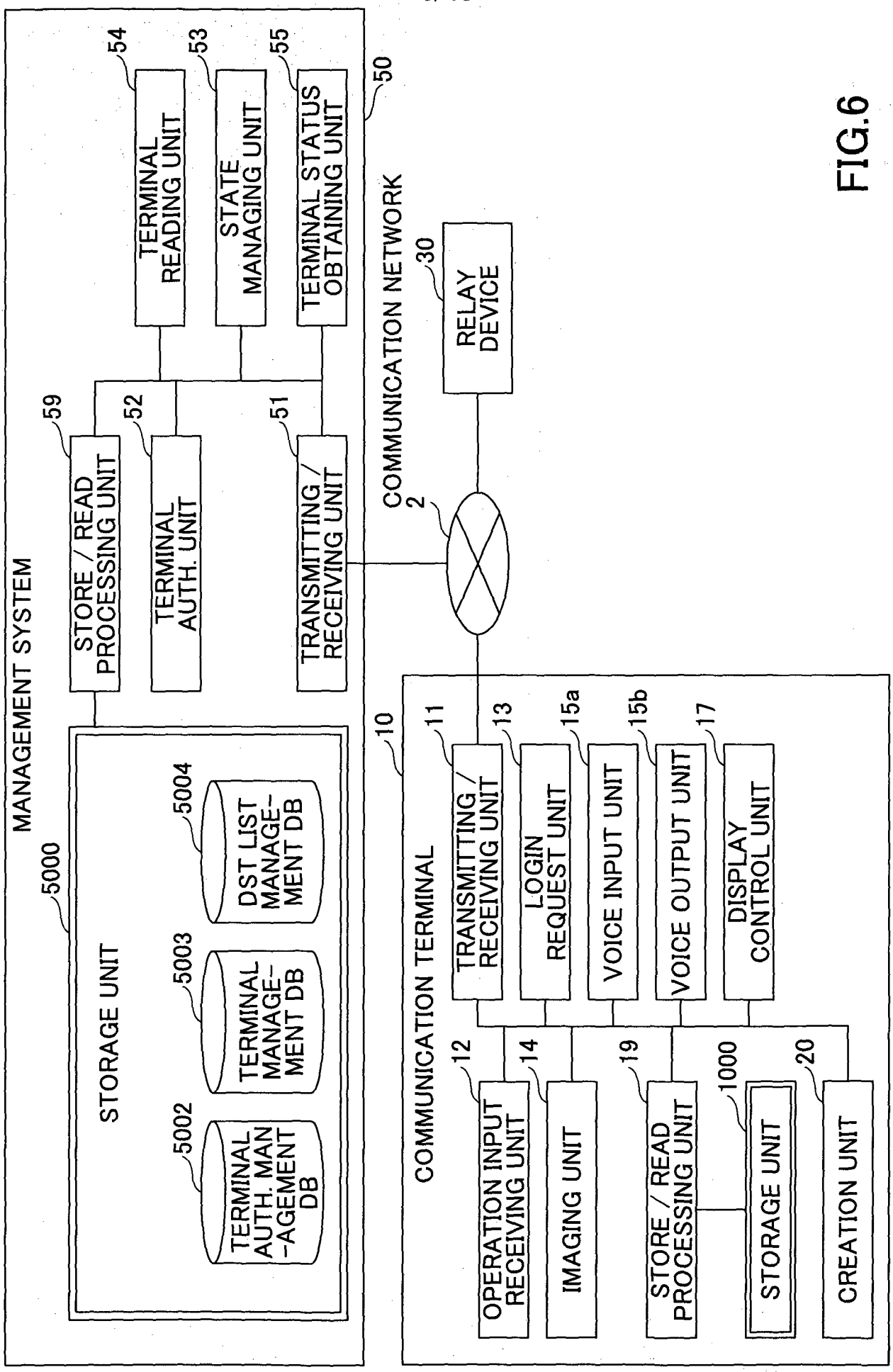

MANAGEMENT SYSTEM
50
54
TERMINAL READING UNIT
53
STATE MANAGING UNIT
55
TERMINAL STATUS OBTAINING UNIT
59
STORE / READ PROCESSING UNIT
52
TERMINAL AUTH. UNIT
51
TRANSMITTING / RECEIVING UNIT
5000
STORAGE UNIT
5002
TERMINAL AUTH. MAN-AGEMENT DB
5003
TERMINAL MANAGE-MENT DB
5004
DST LIST MANAGE-MENT DB
COMMUNICATION NETWORK
2
30
RELAY DEVICE
10
COMMUNICATION TERMINAL
11
TRANSMITTING / RECEIVING UNIT
13
LOGIN REQUEST UNIT
15a
VOICE INPUT UNIT
15b
VOICE OUTPUT UNIT
17
DISPLAY CONTROL UNIT
12
OPERATION INPUT RECEIVING UNIT
14
IMAGING UNIT
19
STORE / READ PROCESSING UNIT
1000
STORAGE UNIT
20
CREATION UNIT

FIG.6

FIG.7

DISPLAY CONTROL FLAG	DC1

(A)

DISPLAY CONTROL FLAG	01ab

(B)

FIG.8

TERMINAL ID	PASSWORD
01aa	aaaa
01ab	abab
01ba	baba
...	...

FIG.9

SOURCE TERMINAL ID	DESTINATION TERMINAL ID
01aa	01ab,01ba,01db,01dc,01ca,01cb
01ab	01aa,01ca,01cb
01ba	01aa,01ab,01ca,01cb,01da,01db
01cb	01db
・・・	・・・
01db	01aa,01ab,01ba,・・・,01da,01ca,01cb ,・・・,01da

FIG.10

TERMINAL ID	TERMINAL NAME	TERMINAL STATUS	RECEIVED DATE AND TIME	TERMINAL IP ADDRESS
01aa	JAPAN TOKYO OFFICE AA TERMINAL	ONLINE (DURING MEETING)	11/10/2009, 1:40 PM	1.2.1.3
01ab	JAPAN TOKYO OFFICE AB TERMINAL	OFFLINE	11/9/2009, NOON	1.2.1.4
...	...	...	...	...
01ba	JAPAN OSAKA OFFICE BA TERMINAL	ONLINE (AVAILABLE)	11/10/2009, 1:45 PM	1.2.2.3
01bb	JAPAN OSAKA OFFICE BB TERMINAL	ONLINE (AVAILABLE)	11/10/2009, 1:50 PM	1.2.2.4
...	...	...	...	...
01ca	U.S. NEW YORK OFFICE CA TERMINAL	OFFLINE	11/10/2009, 0:45 PM	1.3.1.3
01cb	U.S. NEW YORK OFFICE CB TERMINAL	OFFLINE	11/10/2009, 1:55 PM	1.3.1.4
...	...	...	...	...
01da	U.S. WASHINGTON OFFICE DA TERMINAL	OFFLINE	11/8/2009, 0.45 PM	1.3.2.3
01db	U.S. WASHINGTON OFFICE DB TERMINAL	ONLINE (DURING MEETING)	11/10/2009, 0.45 PM	1.3.2.4
...	...	...	...	...

FIG.11

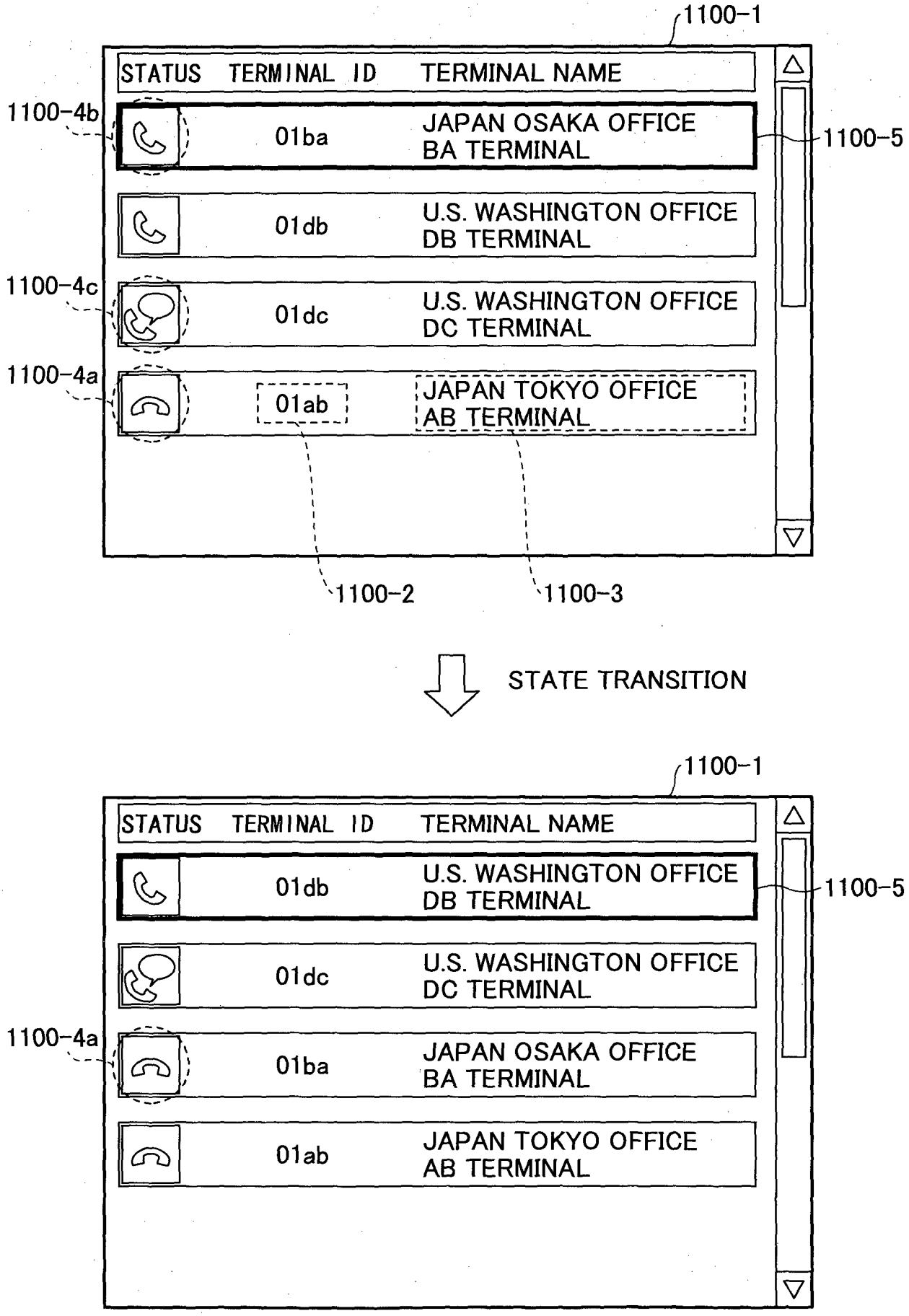

1100-1
STATUS
TERMINAL ID
TERMINAL NAME
1100-4b
01ba
JAPAN OSAKA OFFICE BA TERMINAL
1100-5
01db
U.S. WASHINGTON OFFICE DB TERMINAL
1100-4c
01dc
U.S. WASHINGTON OFFICE DC TERMINAL
1100-4a
01ab
JAPAN TOKYO OFFICE AB TERMINAL
1100-2
1100-3
STATE TRANSITION
1100-1
STATUS
TERMINAL ID
TERMINAL NAME
01db
U.S. WASHINGTON OFFICE DB TERMINAL
1100-5
01dc
U.S. WASHINGTON OFFICE DC TERMINAL
1100-4a
01ba
JAPAN OSAKA OFFICE BA TERMINAL
01ab
JAPAN TOKYO OFFICE AB TERMINAL

FIG.12

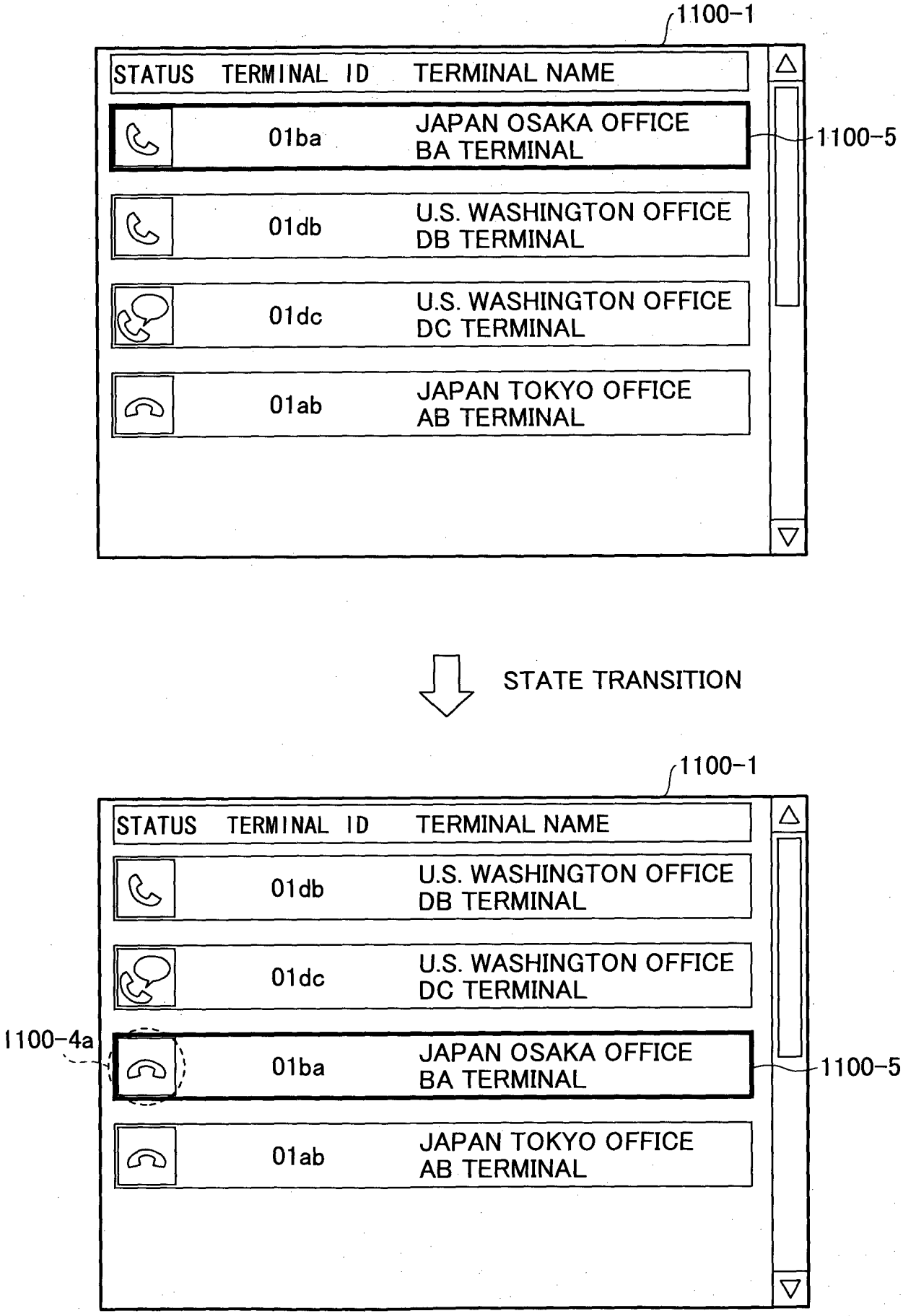

1100-1
STATUS
TERMINAL ID
TERMINAL NAME
01ba
JAPAN OSAKA OFFICE BA TERMINAL
1100-5
01db
U.S. WASHINGTON OFFICE DB TERMINAL
01dc
U.S. WASHINGTON OFFICE DC TERMINAL
01ab
JAPAN TOKYO OFFICE AB TERMINAL
STATE TRANSITION
1100-1
STATUS
TERMINAL ID
TERMINAL NAME
01db
U.S. WASHINGTON OFFICE DB TERMINAL
01dc
U.S. WASHINGTON OFFICE DC TERMINAL
1100-4a
01ba
JAPAN OSAKA OFFICE BA TERMINAL
1100-5
01ab
JAPAN TOKYO OFFICE AB TERMINAL

FIG.13

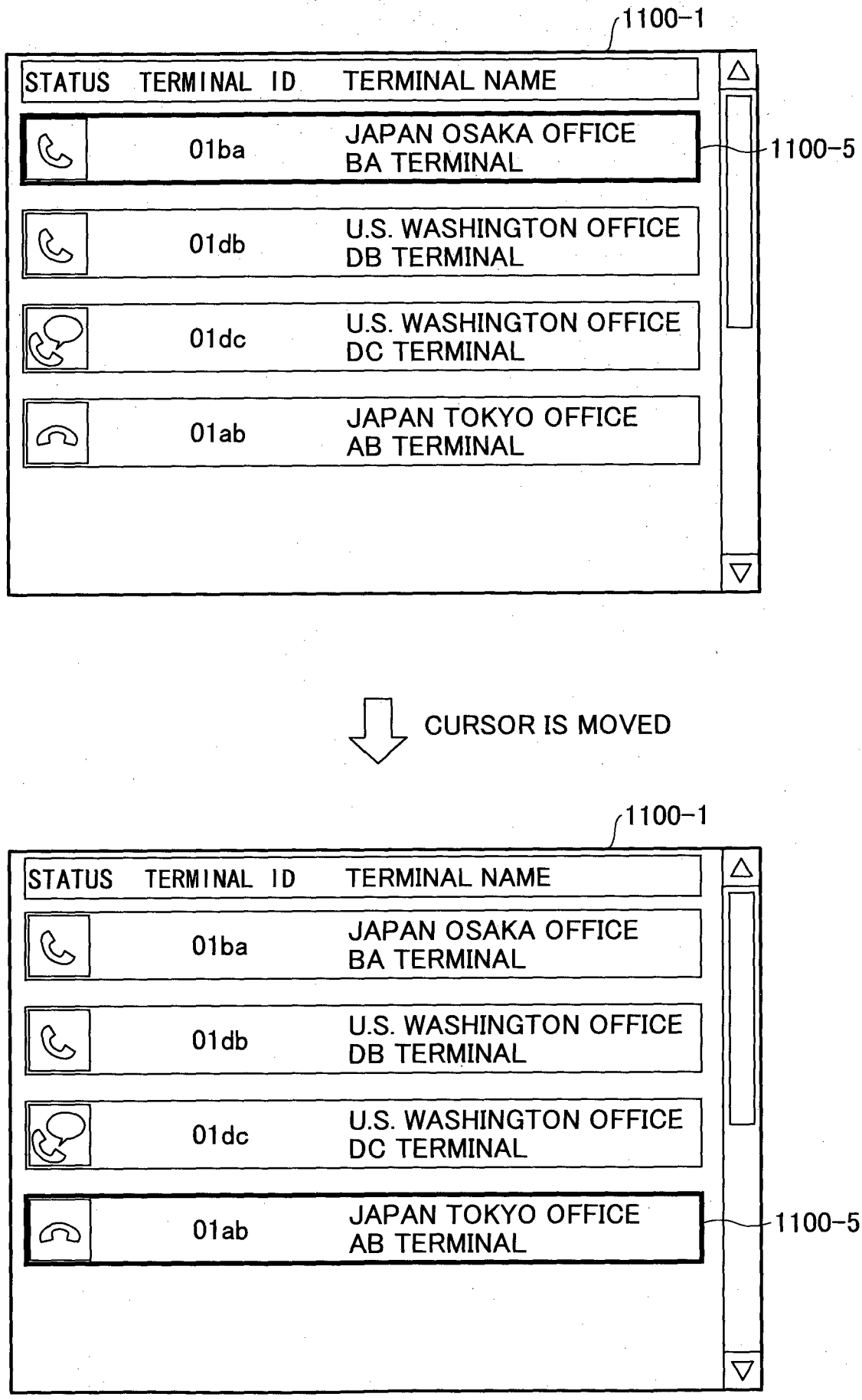

1100-1
STATUS
TERMINAL ID
TERMINAL NAME
01ba
JAPAN OSAKA OFFICE BA TERMINAL
1100-5
01db
U.S. WASHINGTON OFFICE DB TERMINAL
01dc
U.S. WASHINGTON OFFICE DC TERMINAL
01ab
JAPAN TOKYO OFFICE AB TERMINAL
CURSOR IS MOVED
1100-1
STATUS
TERMINAL ID
TERMINAL NAME
01ba
JAPAN OSAKA OFFICE BA TERMINAL
01db
U.S. WASHINGTON OFFICE DB TERMINAL
01dc
U.S. WASHINGTON OFFICE DC TERMINAL
01ab
JAPAN TOKYO OFFICE AB TERMINAL
1100-5

FIG.14

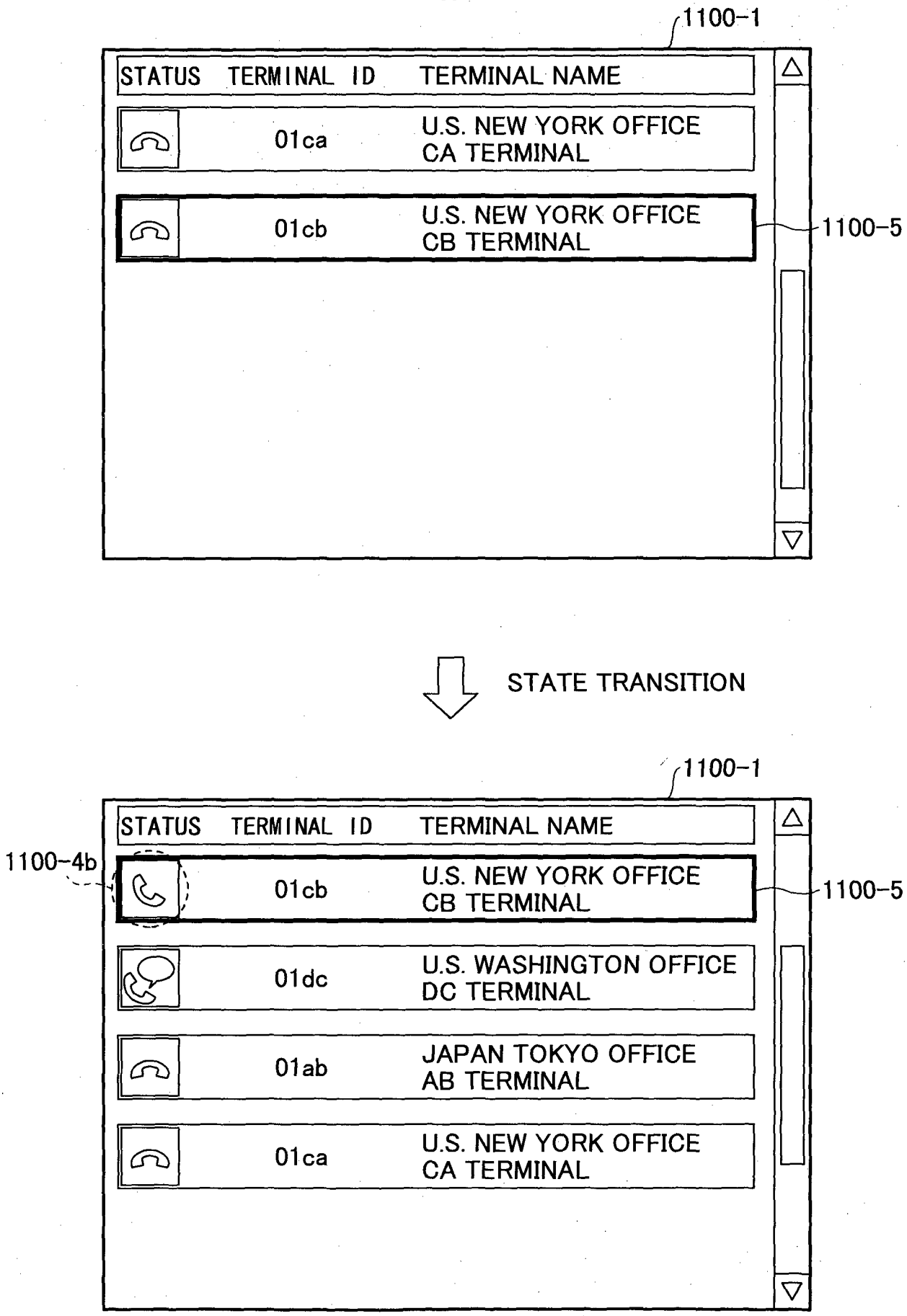

1100-1
STATUS
TERMINAL ID
TERMINAL NAME
01ca
U.S. NEW YORK OFFICE
CA TERMINAL
01cb
U.S. NEW YORK OFFICE
CB TERMINAL
1100-5
STATE TRANSITION
1100-1
STATUS
TERMINAL ID
TERMINAL NAME
1100-4b
01cb
U.S. NEW YORK OFFICE
CB TERMINAL
1100-5
01dc
U.S. WASHINGTON OFFICE
DC TERMINAL
01ab
JAPAN TOKYO OFFICE
AB TERMINAL
01ca
U.S. NEW YORK OFFICE
CA TERMINAL

FIG.15

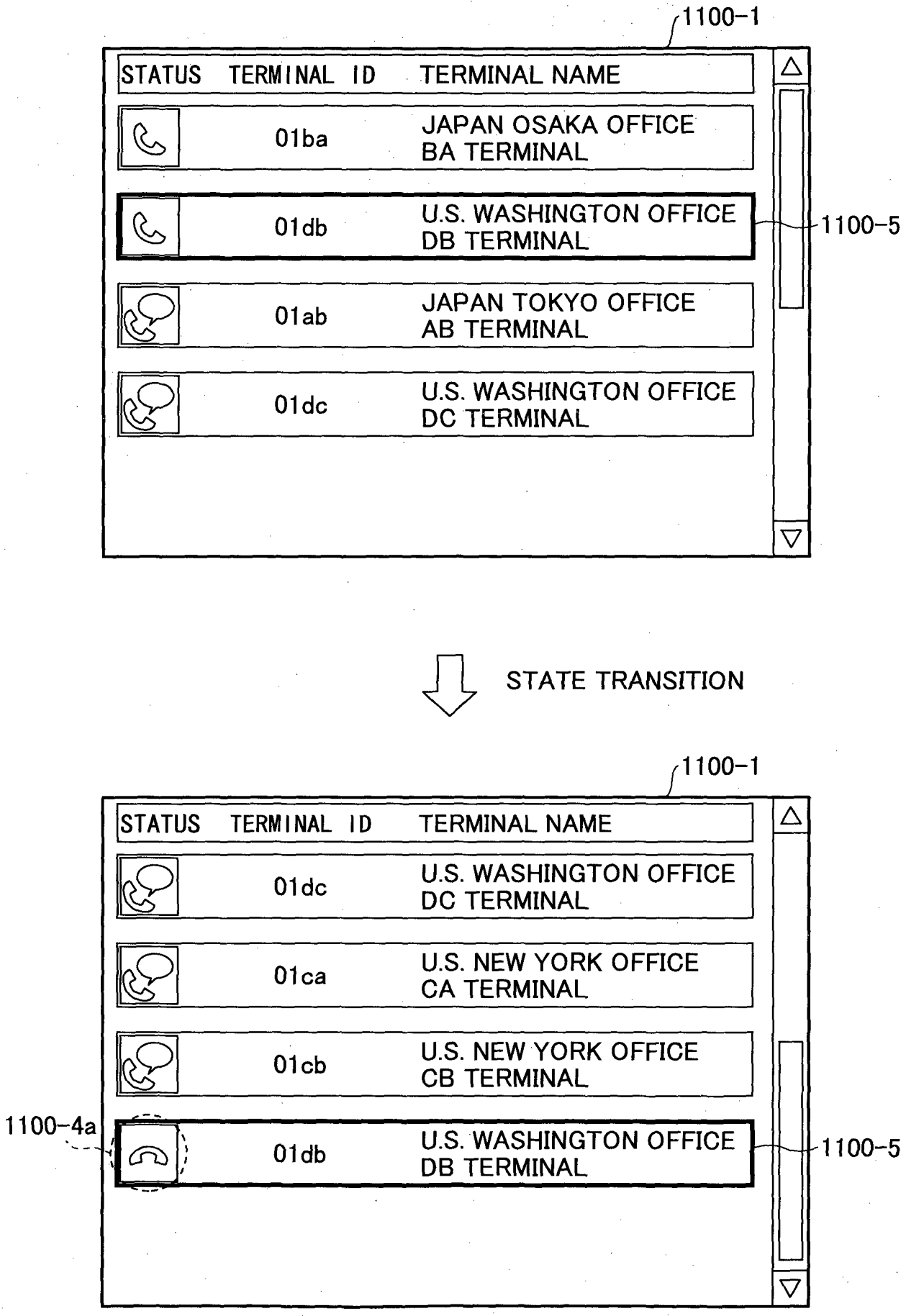
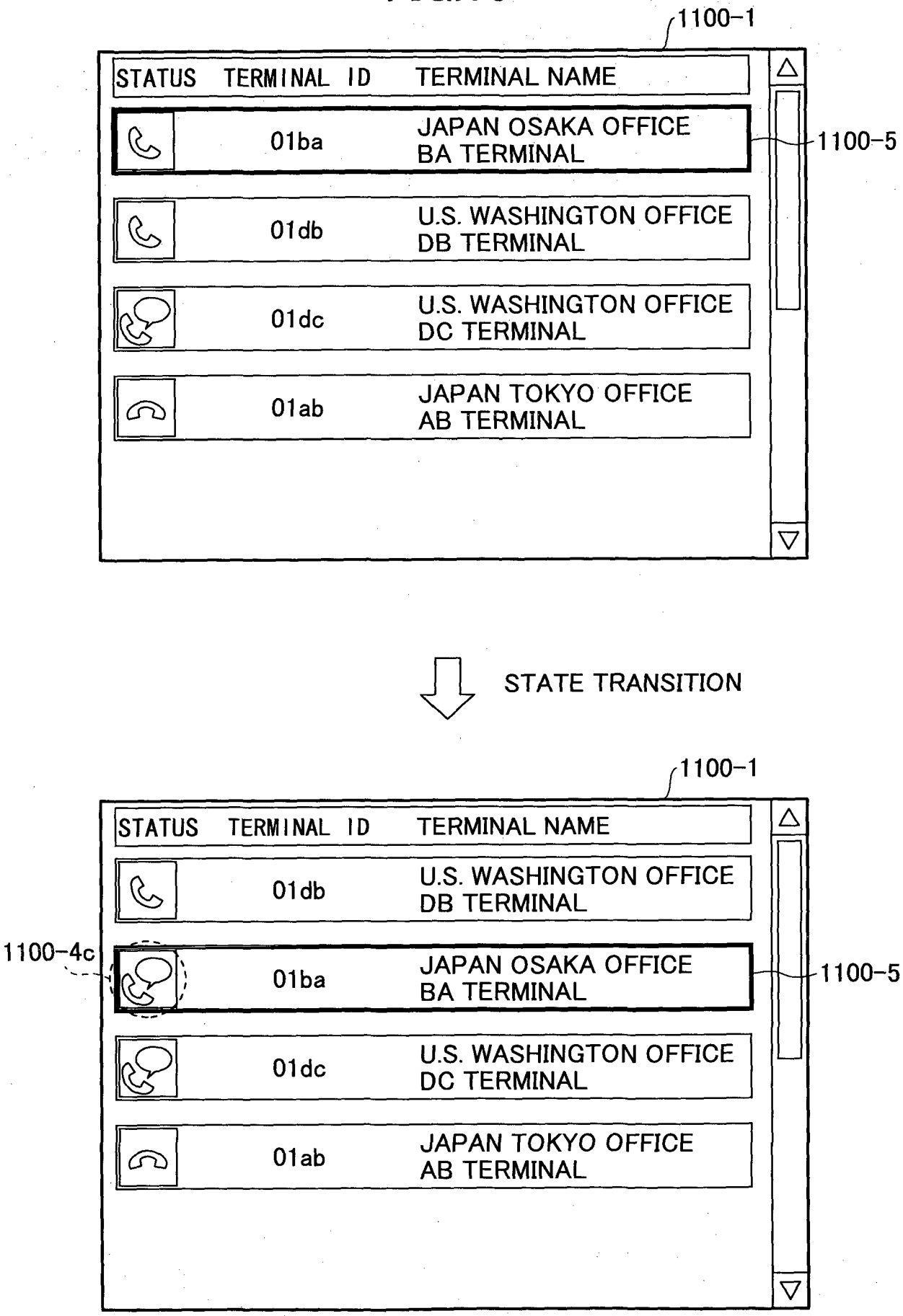

1100-1
STATUS
TERMINAL ID
TERMINAL NAME
01ba
JAPAN OSAKA OFFICE BA TERMINAL
01db
U.S. WASHINGTON OFFICE DB TERMINAL
1100-5
01ab
JAPAN TOKYO OFFICE AB TERMINAL
01dc
U.S. WASHINGTON OFFICE DC TERMINAL
STATE TRANSITION
1100-1
STATUS
TERMINAL ID
TERMINAL NAME
01dc
U.S. WASHINGTON OFFICE DC TERMINAL
01ca
U.S. NEW YORK OFFICE CA TERMINAL
01cb
U.S. NEW YORK OFFICE CB TERMINAL
1100-4a
01db
U.S. WASHINGTON OFFICE DB TERMINAL
1100-5

FIG.16


1100-1
STATUS
TERMINAL ID
TERMINAL NAME
01ba
JAPAN OSAKA OFFICE BA TERMINAL
1100-5
01db
U.S. WASHINGTON OFFICE DB TERMINAL
01dc
U.S. WASHINGTON OFFICE DC TERMINAL
01ab
JAPAN TOKYO OFFICE AB TERMINAL
STATE TRANSITION
1100-1
STATUS
TERMINAL ID
TERMINAL NAME
01db
U.S. WASHINGTON OFFICE DB TERMINAL
1100-4c
01ba
JAPAN OSAKA OFFICE BA TERMINAL
1100-5
01dc
U.S. WASHINGTON OFFICE DC TERMINAL
01ab
JAPAN TOKYO OFFICE AB TERMINAL

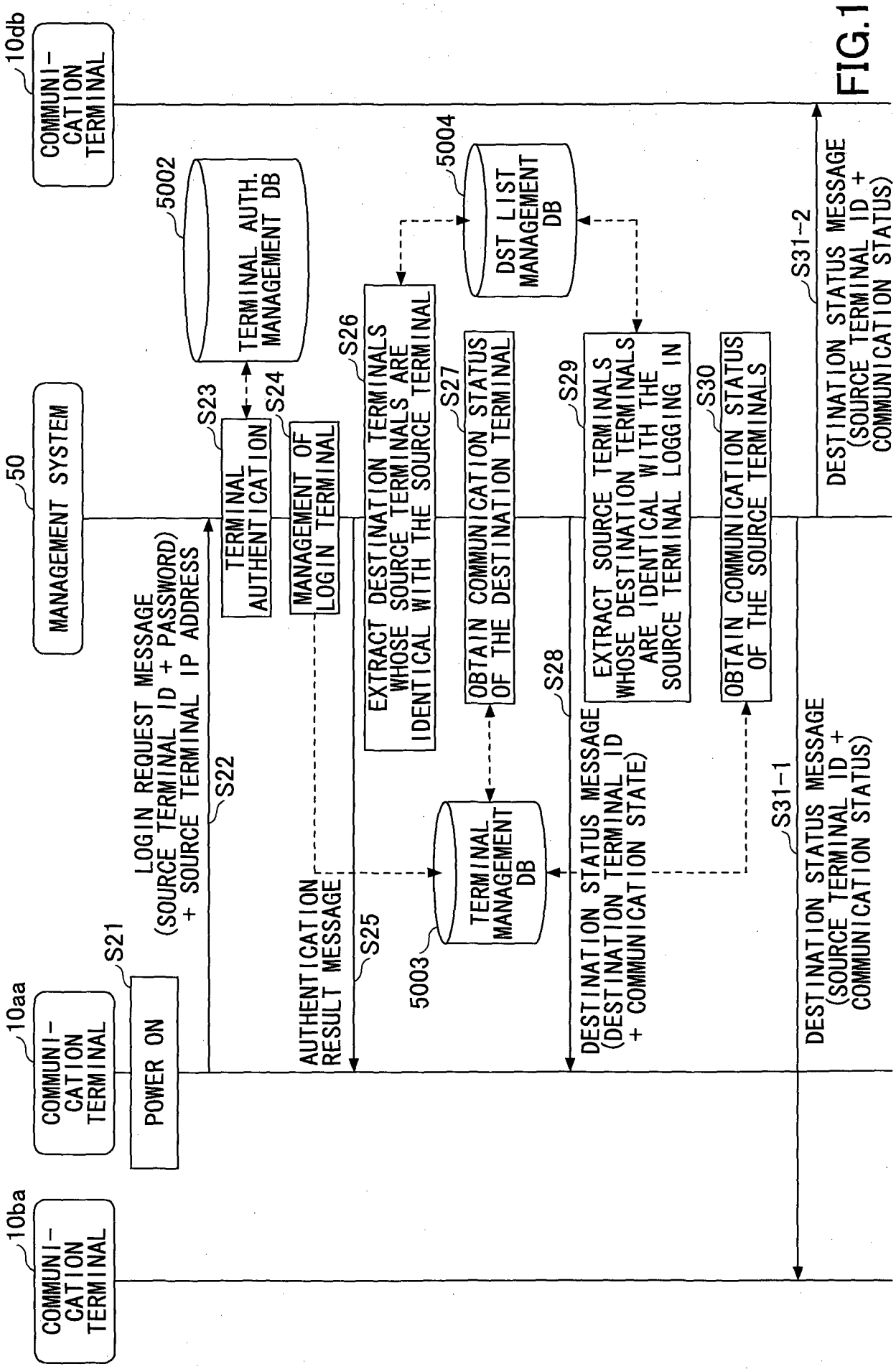

10ba
COMMUNI-CATION TERMINAL
10aa
COMMUNI-CATION TERMINAL
10db
COMMUNI-CATION TERMINAL
50
MANAGEMENT SYSTEM
S21
POWER ON
S22
LOGIN REQUEST MESSAGE (SOURCE TERMINAL ID + PASSWORD) + SOURCE TERMINAL IP ADDRESS
S23
TERMINAL AUTHENTICATION
5002
TERMINAL AUTH. MANAGEMENT DB
S24
MANAGEMENT OF LOGIN TERMINAL
AUTHENTICATION RESULT MESSAGE
S25
S26
EXTRACT DESTINATION TERMINALS WHOSE SOURCE TERMINALS ARE IDENTICAL WITH THE SOURCE TERMINAL
5003
TERMINAL MANAGEMENT DB
S27
OBTAIN COMMUNICATION STATUS OF THE DESTINATION TERMINAL
5004
DST LIST MANAGEMENT DB
S28
DESTINATION STATUS MESSAGE (DESTINATION TERMINAL ID + COMMUNICATION STATE)
S29
EXTRACT SOURCE TERMINALS WHOSE DESTINATION TERMINALS ARE IDENTICAL WITH THE SOURCE TERMINAL LOGGING IN
S30
OBTAIN COMMUNICATION STATUS OF THE SOURCE TERMINALS
S31-1
DESTINATION STATUS MESSAGE (SOURCE TERMINAL ID + COMMUNICATION STATUS)
S31-2
DESTINATION STATUS MESSAGE (SOURCE TERMINAL ID + COMMUNICATION STATUS)

FIG.17

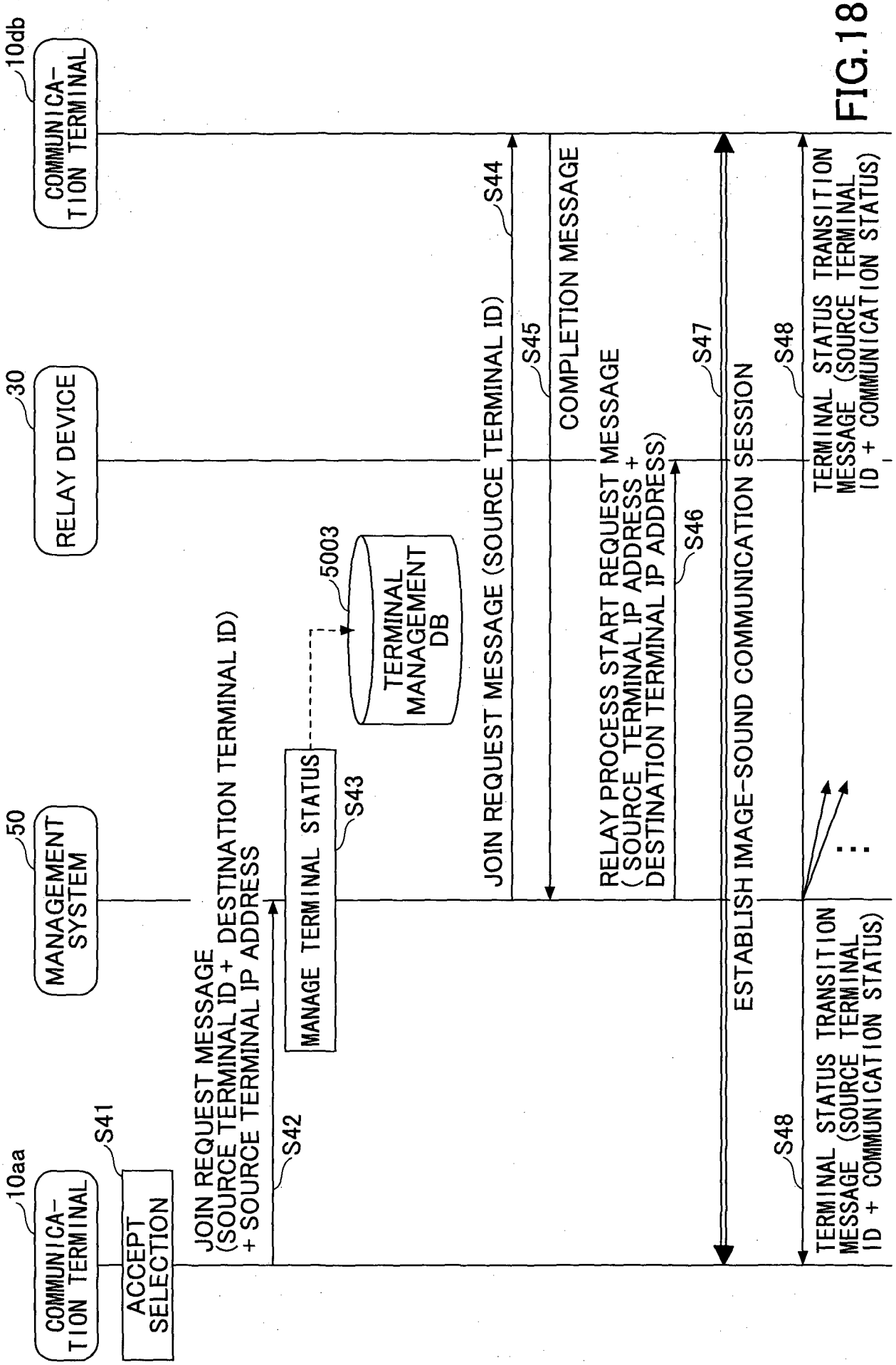
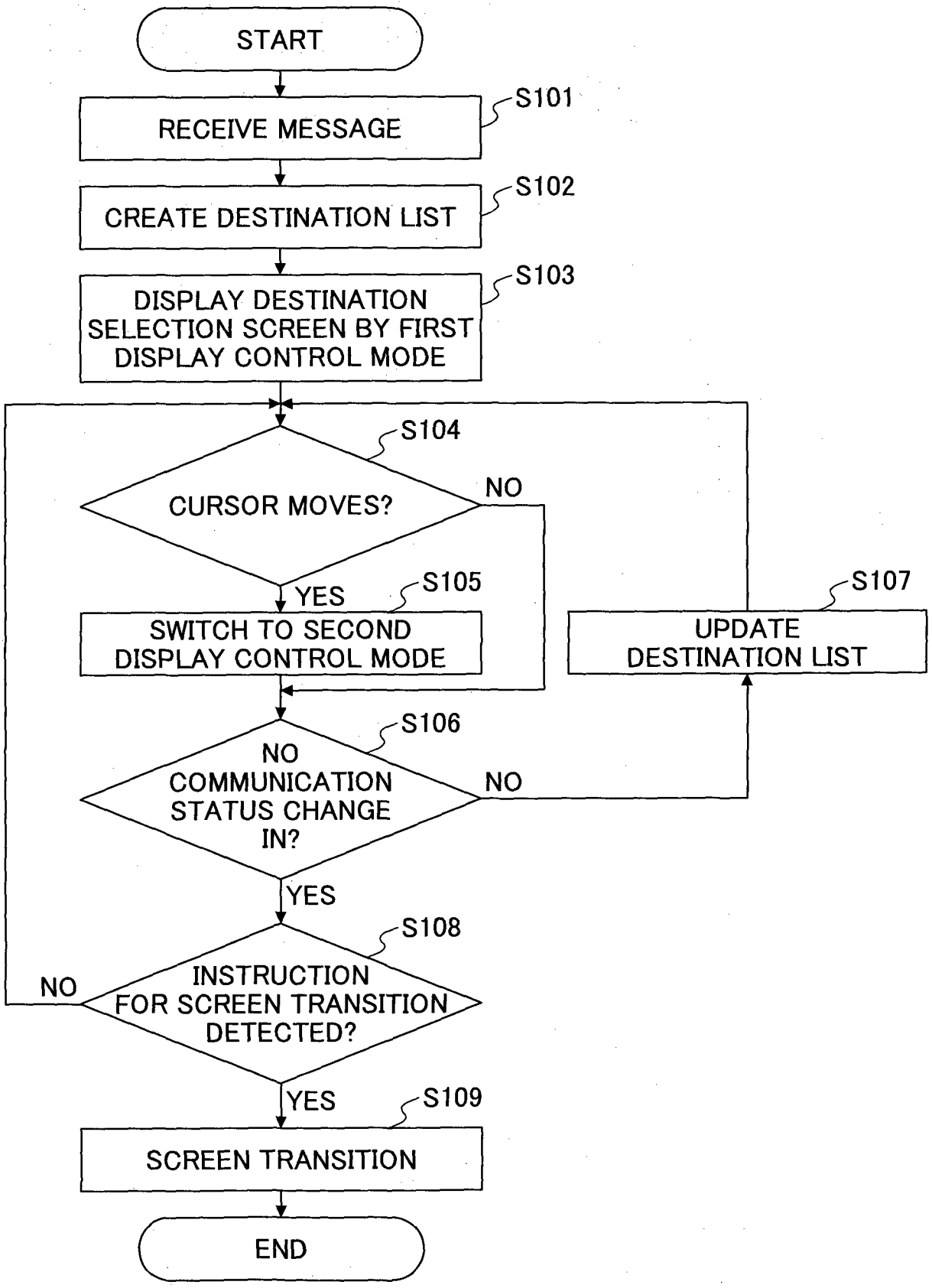

10aa
COMMUNICATION TERMINAL
S41
ACCEPT SELECTION
50
MANAGEMENT SYSTEM
30
RELAY DEVICE
10db
COMMUNICATION TERMINAL
JOIN REQUEST MESSAGE (SOURCE TERMINAL ID + DESTINATION TERMINAL ID) + SOURCE TERMINAL IP ADDRESS
S42
MANAGE TERMINAL STATUS
S43
5003
TERMINAL MANAGEMENT DB
JOIN REQUEST MESSAGE (SOURCE TERMINAL ID)
S44
S45
COMPLETION MESSAGE
RELAY PROCESS START REQUEST MESSAGE (SOURCE TERMINAL IP ADDRESS + DESTINATION TERMINAL IP ADDRESS)
S46
S47
ESTABLISH IMAGE-SOUND COMMUNICATION SESSION
S48
TERMINAL STATUS TRANSITION MESSAGE (SOURCE TERMINAL ID + COMMUNICATION STATUS)
S48
TERMINAL STATUS TRANSITION MESSAGE (SOURCE TERMINAL ID + COMMUNICATION STATUS)

FIG.18

FIG.19


START
RECEIVE MESSAGE
S101
CREATE DESTINATION LIST
S102
DISPLAY DESTINATION SELECTION SCREEN BY FIRST DISPLAY CONTROL MODE
S103
CURSOR MOVES?
S104
NO
YES
SWITCH TO SECOND DISPLAY CONTROL MODE
S105
UPDATE DESTINATION LIST
S107
NO COMMUNICATION STATUS CHANGE IN?
S106
NO
YES
INSTRUCTION FOR SCREEN TRANSITION DETECTED?
S108
NO
YES
SCREEN TRANSITION
S109
END