FIG. 1

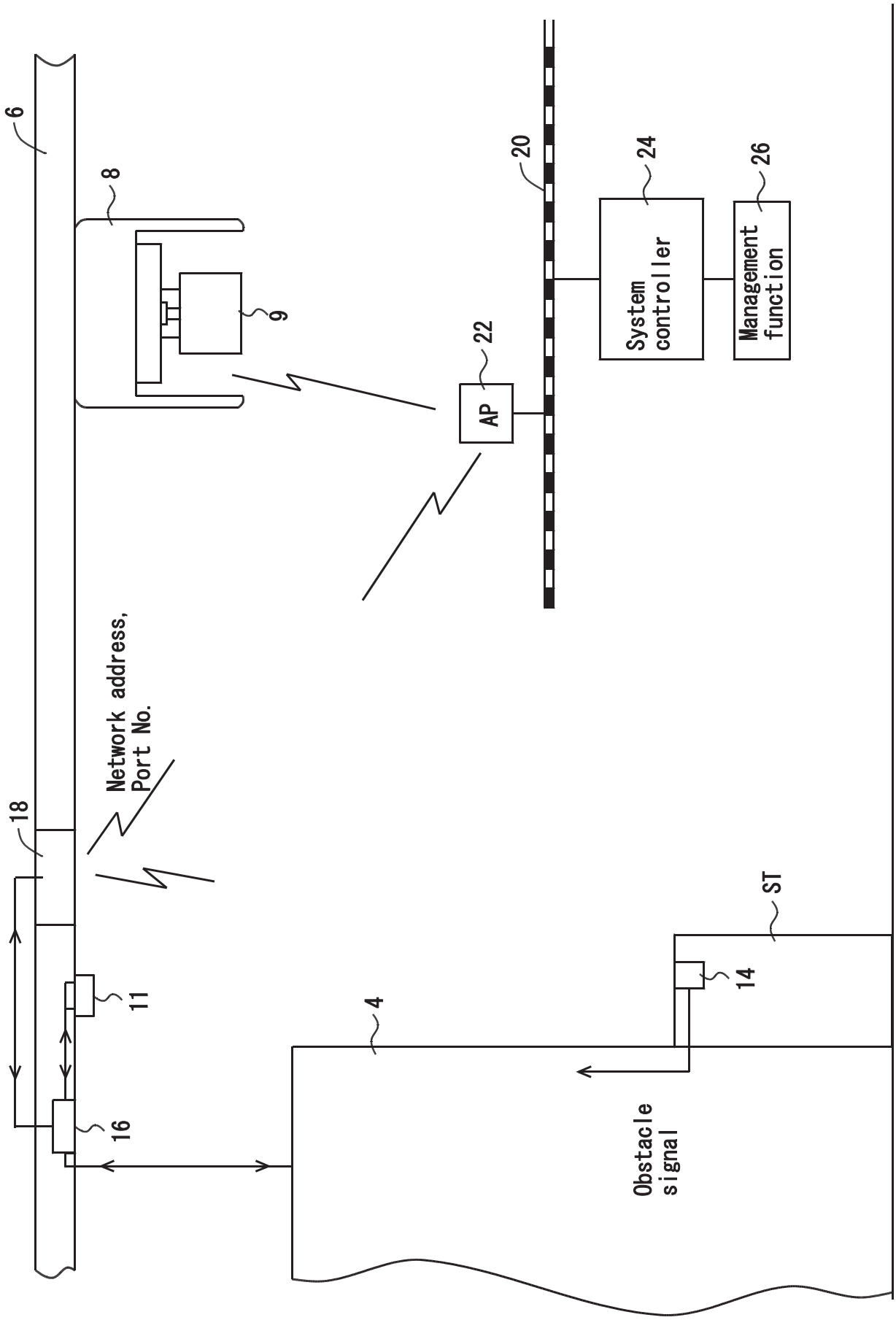

6
8
9
20
24
26
System controller
Management function
22
AP
Network address, Port No.
18
11
16
4
14
ST
Obstacle signal

FIG. 2

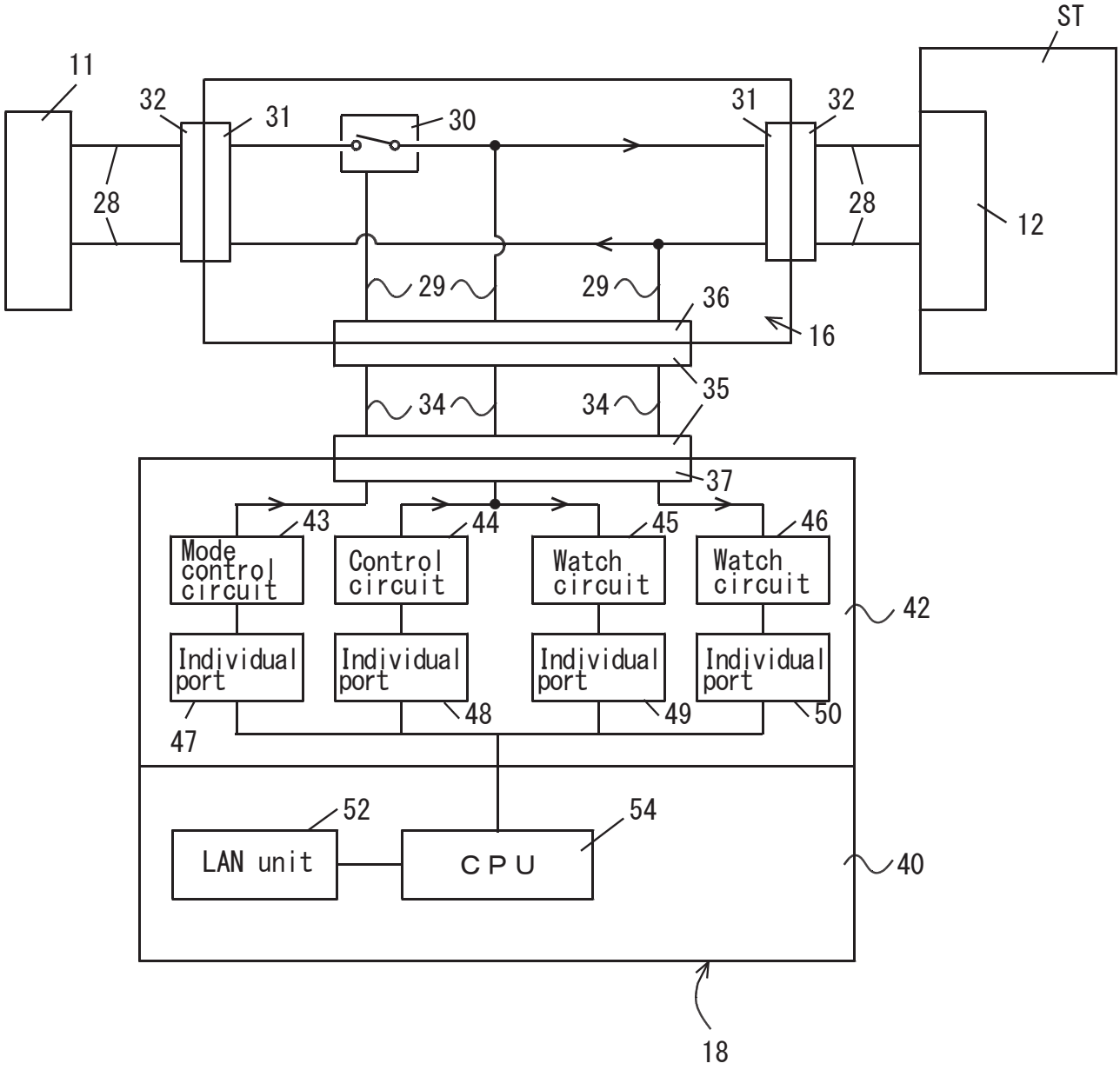

ST
11
32
31
30
31
32
28
28
12
29
29
36
16
35
34
34
37
43
44
45
46
Mode control circuit
Control circuit
Watch circuit
Watch circuit
42
Individual port
Individual port
Individual port
Individual port
47
48
49
50
52
54
LAN unit
CPU
40
18

FIG. 3

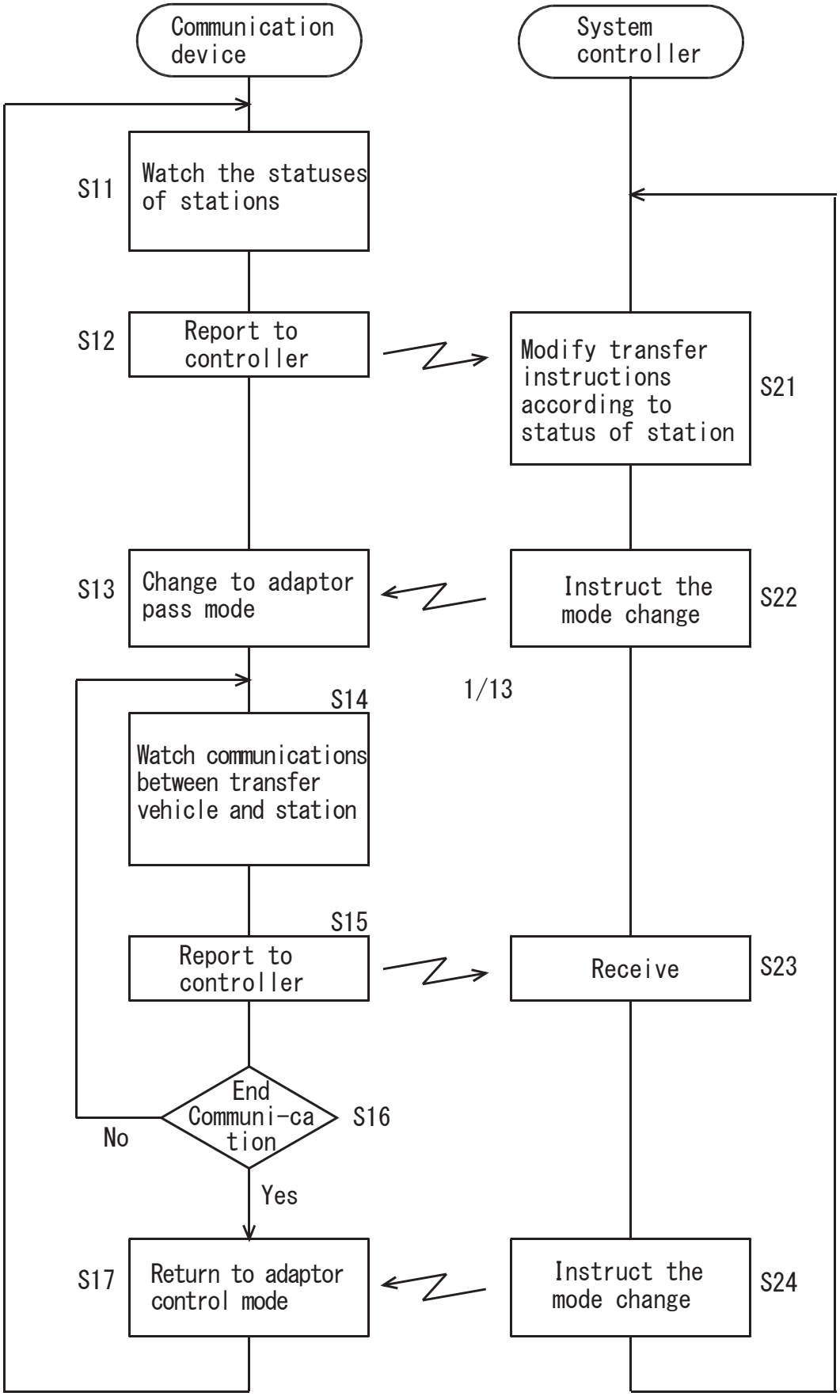

Communication device
System controller
S11
Watch the statuses of stations
S12
Report to controller
Modify transfer instructions according to status of station
S21
S13
Change to adaptor pass mode
Instruct the mode change
S22
1/13
S14
Watch communications between transfer vehicle and station
S15
Report to controller
Receive
S23
End Communi-ca tion
S16
No
Yes
S17
Return to adaptor control mode
Instruct the mode change
S24

FIG. 4

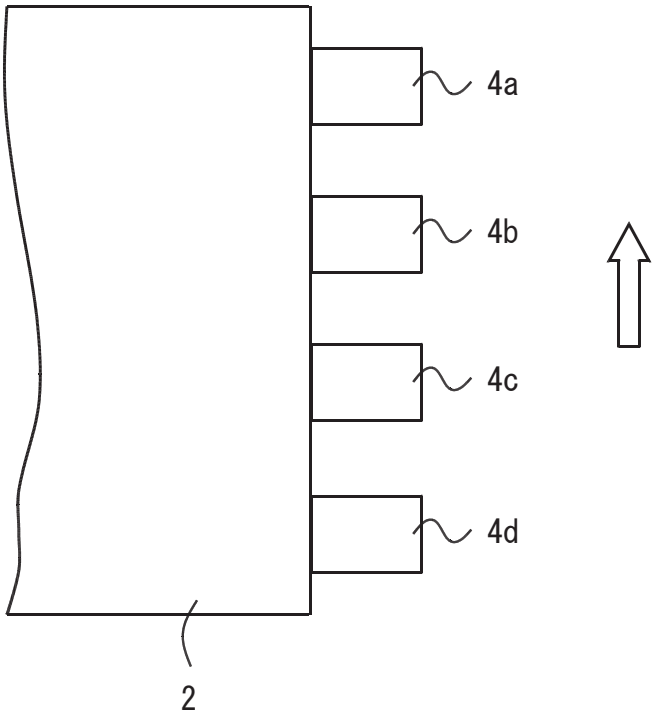


FIG. 5

E84DS	Port	LP	Mode	Status			
				OUT		IN	
MAC:78-2B-CB-86-A3-01 IP:192.168.0.1	P1	L1	Adaptor pass	L_REQ U_REQ VA READY VS_0 VS_1 HO_AVBL ES	OFF OFF ON OFF OFF OFF OFF OFF	VALID CS_0 CS_1 AM_AVBL TR_REQ BUSY COMPT CONT	OFF OFF OFF OFF OFF OFF OFF OFF
	P2	L2	Adaptor control	L_REQ U_REQ VA READY VS_0 VS_1 HO_AVBL ES	OFF OFF ON OFF OFF OFF OFF OFF	VALID CS_0 CS_1 AM_AVBL TR_REQ BUSY COMPT CONT	OFF OFF OFF OFF OFF OFF OFF OFF

FIG. 6

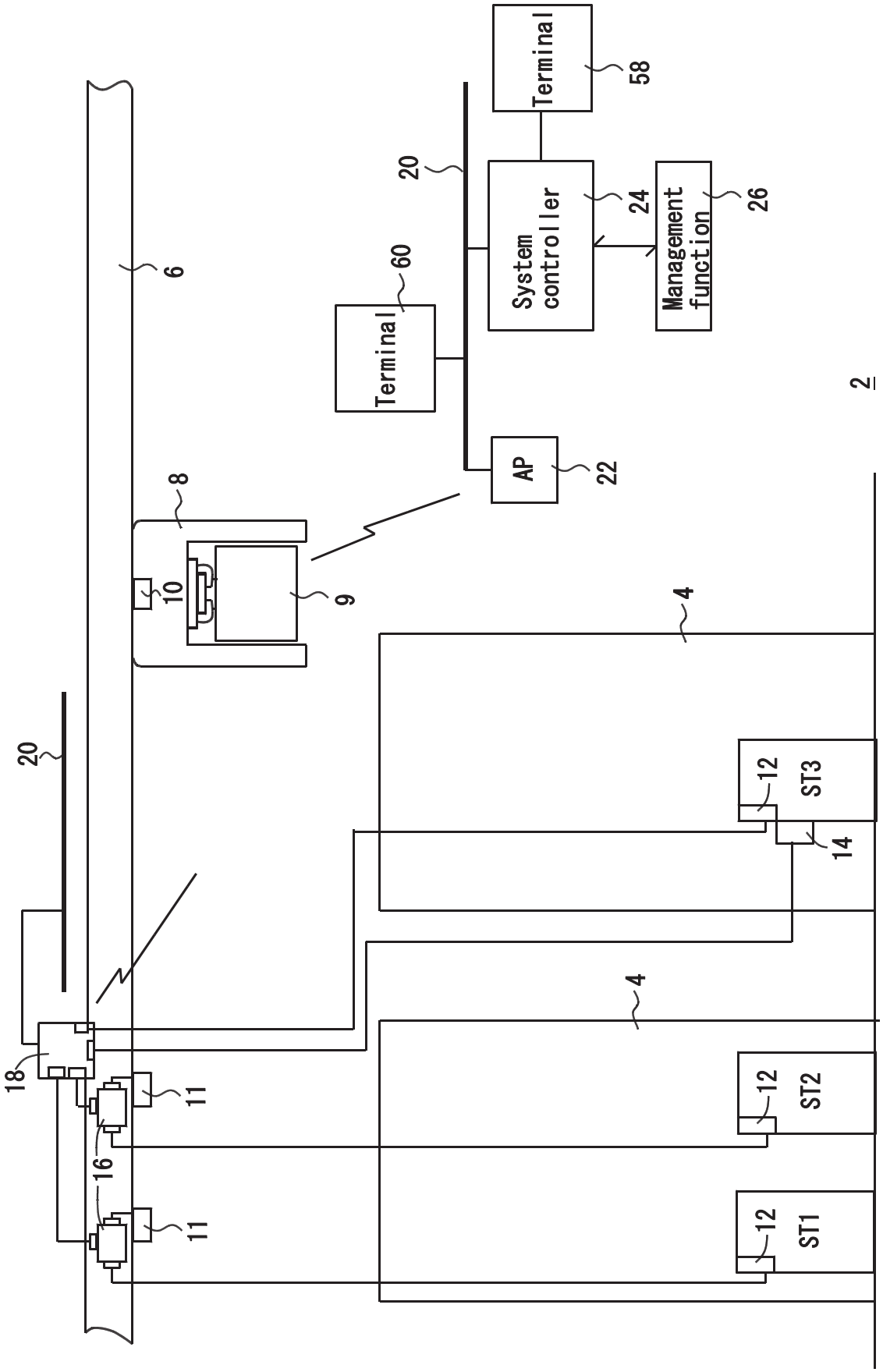

Terminal
58
20
System controller
24
Management function
26
Terminal
60
6
AP
22
2
8
10
9
4
20
12
ST3
14
4
18
11
16
12
ST2
11
12
ST1

FIG. 7

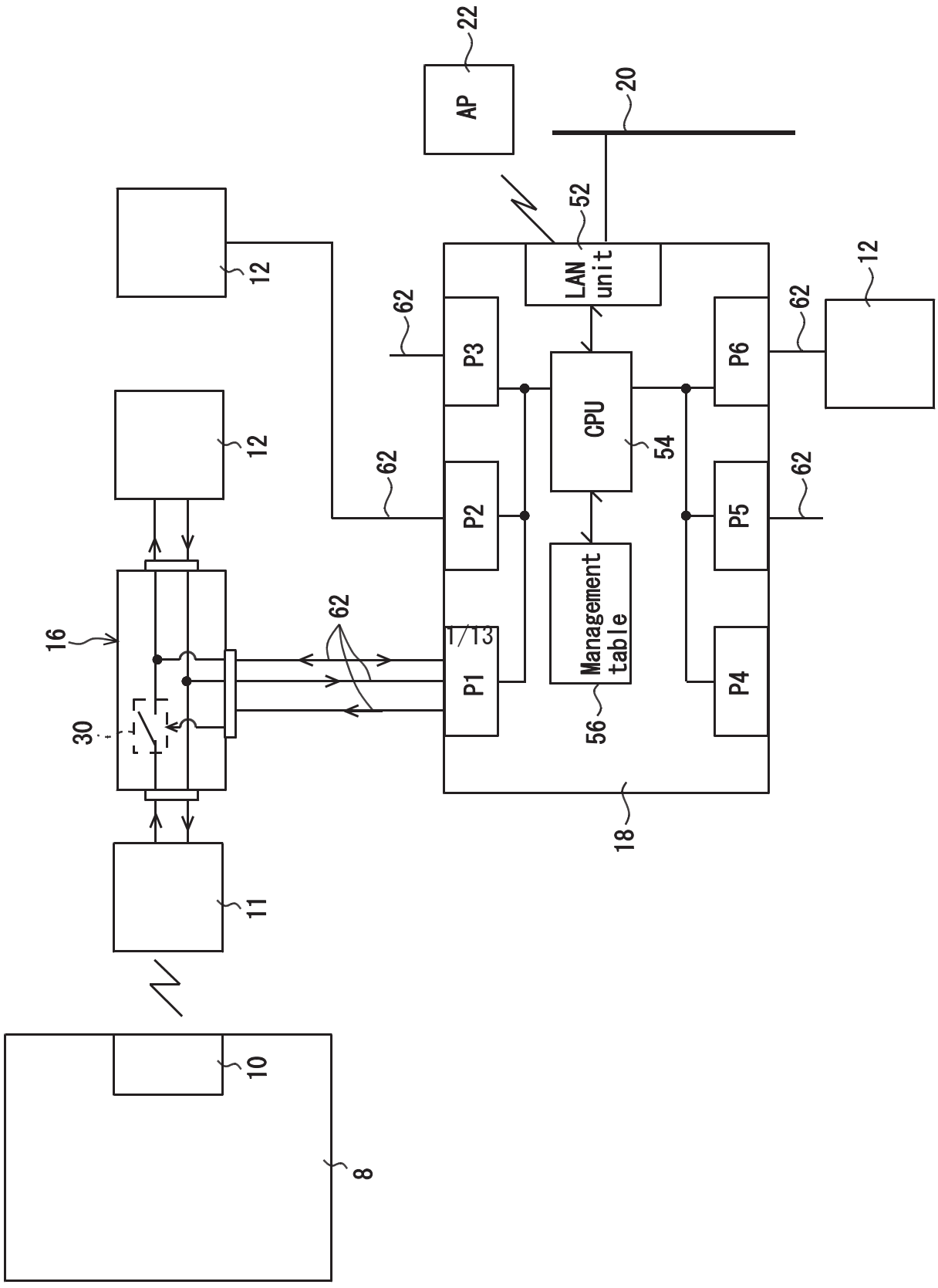

AP
22
20
52
LAN unit
12
62
P3
CPU
54
P6
12
62
12
62
P2
P5
62
16
62
1/13
P1
Management table
56
P4
30
18
11
10
8

FIG. 8

E84DS	Port	ST	Mode	Status				SWITCH
				OUT		IN		
MAC:78-2B-CB-86-A3-01 IP: 192.168.0.1	P1	ST1	A-C	L_REQ U_REQ VA READY VS_0 VS_1 HO_AVBL ES	OFF OFF ON OFF OFF OFF OFF OFF	VALID CS_0 CS_1 AM_AVBL TR_REQ BUSY COMPT CONT	OFF OFF OFF OFF OFF OFF OFF OFF	OFF
	P2	ST2	A-P	L_REQ U_REQ VA READY VS_0 VS_1 HO_AVBL ES	OFF OFF ON OFF OFF OFF OFF OFF	VALID CS_0 CS_1 AM_AVBL TR_REQ BUSY COMPT CONT	OFF OFF OFF OFF OFF OFF OFF OFF	ON
	P3	ST3	C	L_REQ U_REQ VA READY VS_0 VS_1 HO_AVBL ES	OFF OFF ON OFF OFF OFF OFF OFF	VALID CS_0 CS_1 AM_AVBL TR_REQ BUSY COMPT CONT	OFF OFF OFF OFF OFF OFF OFF OFF	———

FIG. 9

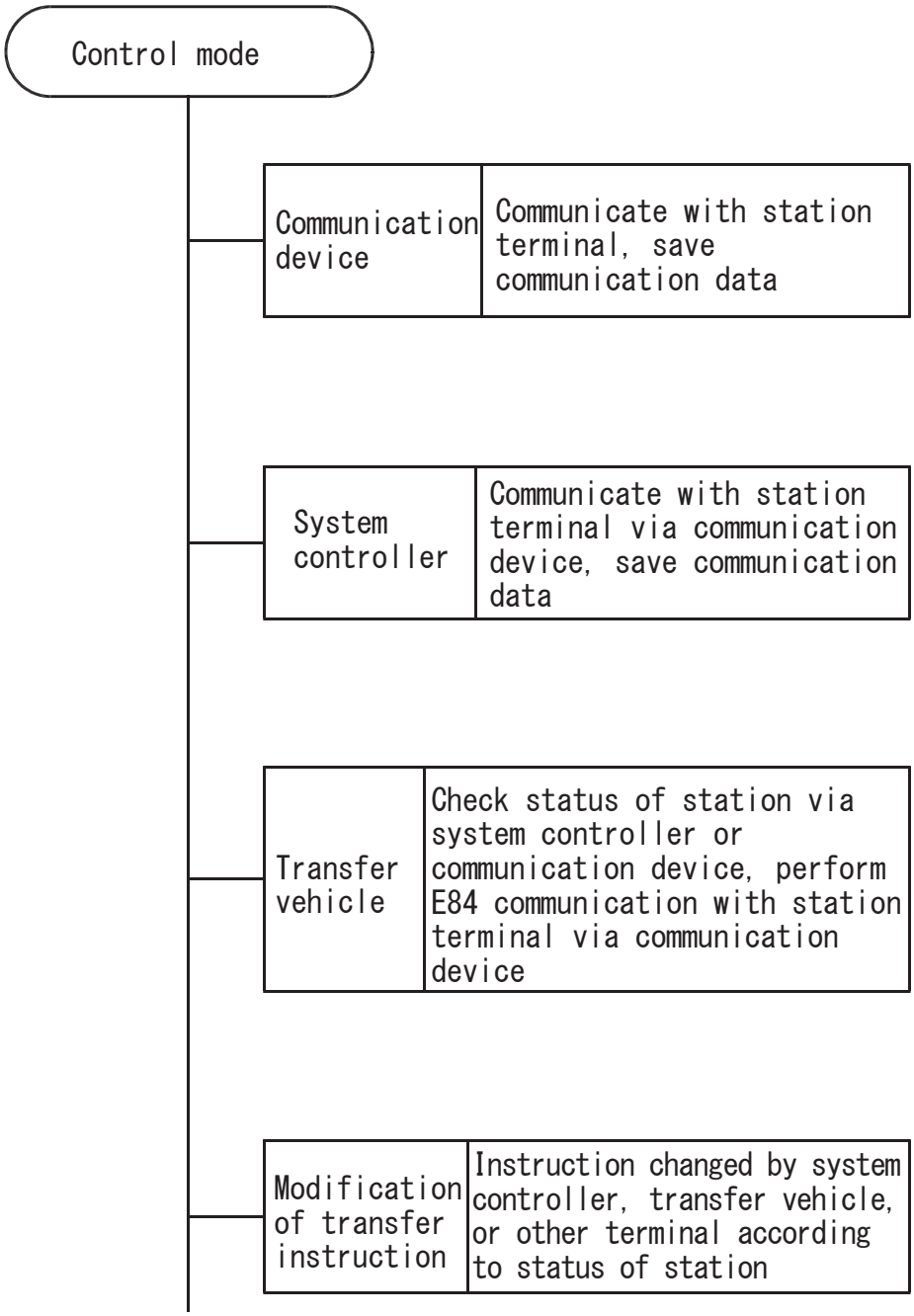

Control mode
Communication device
Communicate with station terminal, save communication data
System controller
Communicate with station terminal via communication device, save communication data
Transfer vehicle
Check status of station via system controller or communication device, perform E84 communication with station terminal via communication device
Modification of transfer instruction
Instruction changed by system controller, transfer vehicle, or other terminal according to status of station

FIG. 10

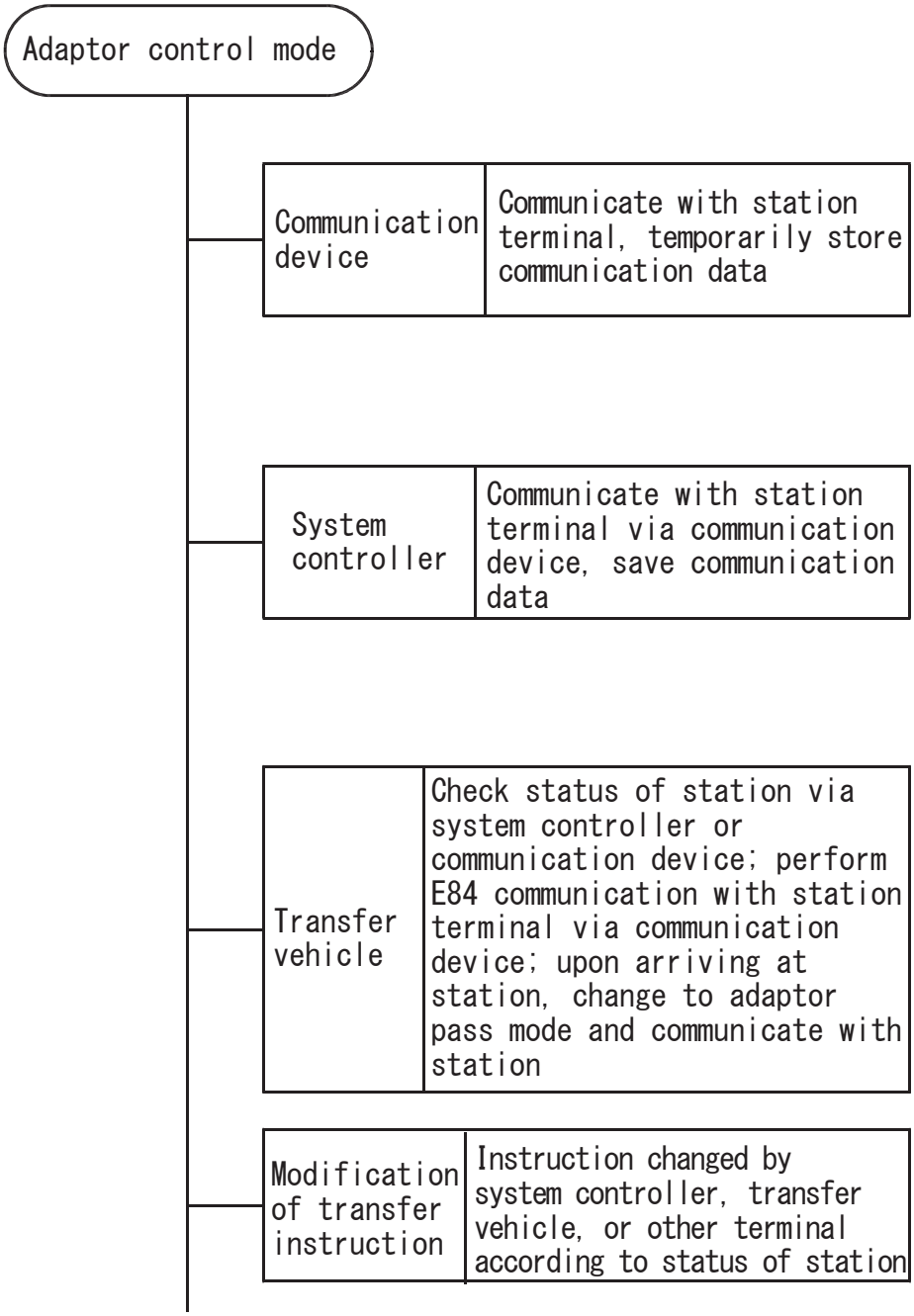

Adaptor control mode
Communication device
Communicate with station terminal, temporarily store communication data
System controller
Communicate with station terminal via communication device, save communication data
Transfer vehicle
Check status of station via system controller or communication device; perform E84 communication with station terminal via communication device; upon arriving at station, change to adaptor pass mode and communicate with station
Modification of transfer instruction
Instruction changed by system controller, transfer vehicle, or other terminal according to status of station

FIG. 11

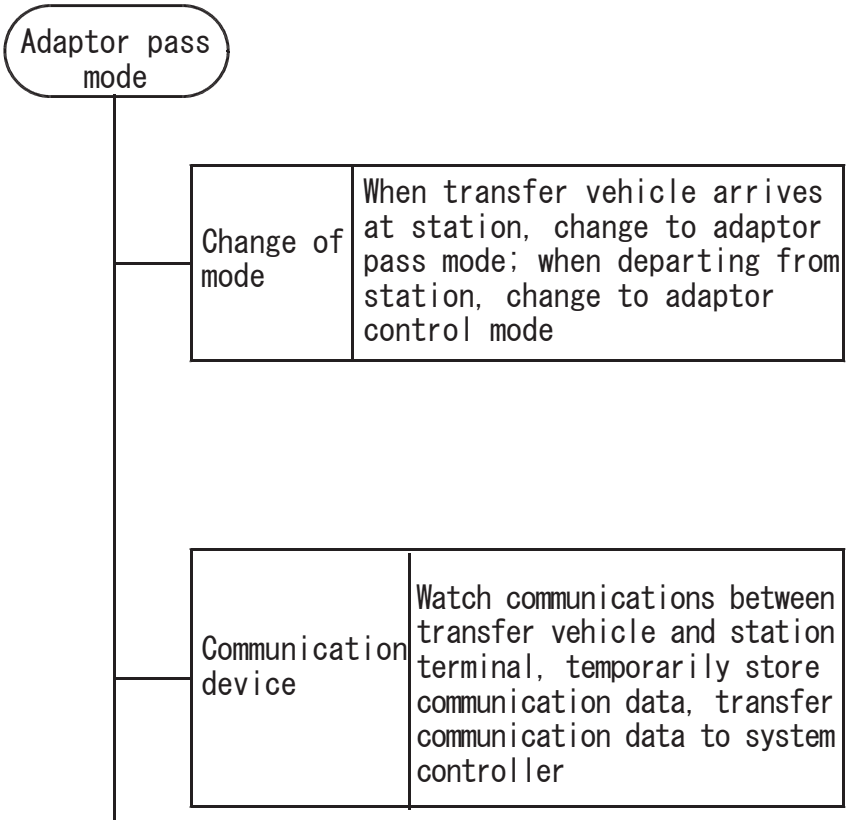

Adaptor pass mode
Change of mode
When transfer vehicle arrives at station, change to adaptor pass mode; when departing from station, change to adaptor control mode
Communication device
Watch communications between transfer vehicle and station terminal, temporarily store communication data, transfer communication data to system controller

FIG. 12

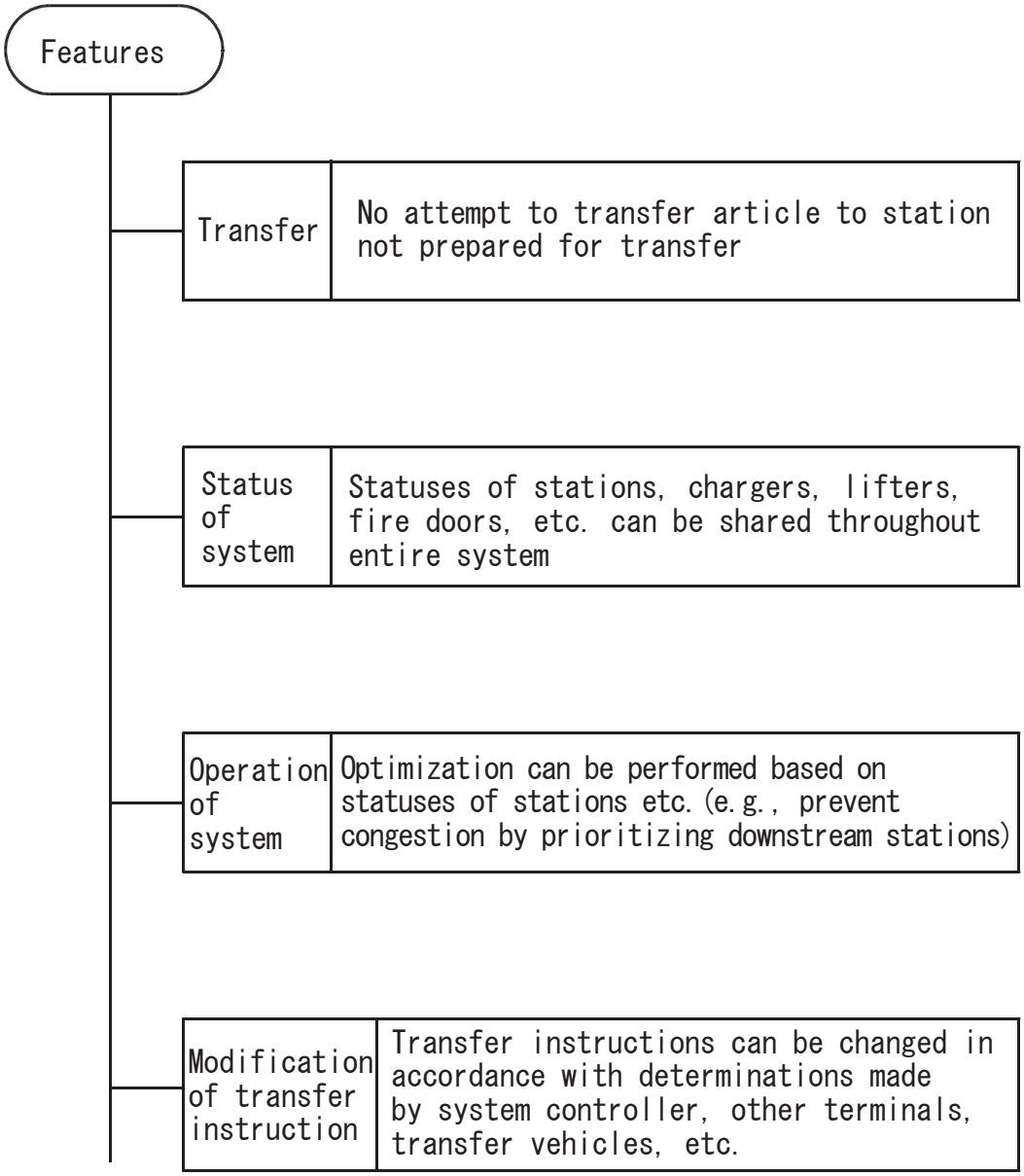

Features
Transfer
No attempt to transfer article to station not prepared for transfer
Status of system
Statuses of stations, chargers, lifters, fire doors, etc. can be shared throughout entire system
Operation of system
Optimization can be performed based on statuses of stations etc. (e.g., prevent congestion by prioritizing downstream stations)
Modification of transfer instruction
Transfer instructions can be changed in accordance with determinations made by system controller, other terminals, transfer vehicles, etc.

FIG. 13

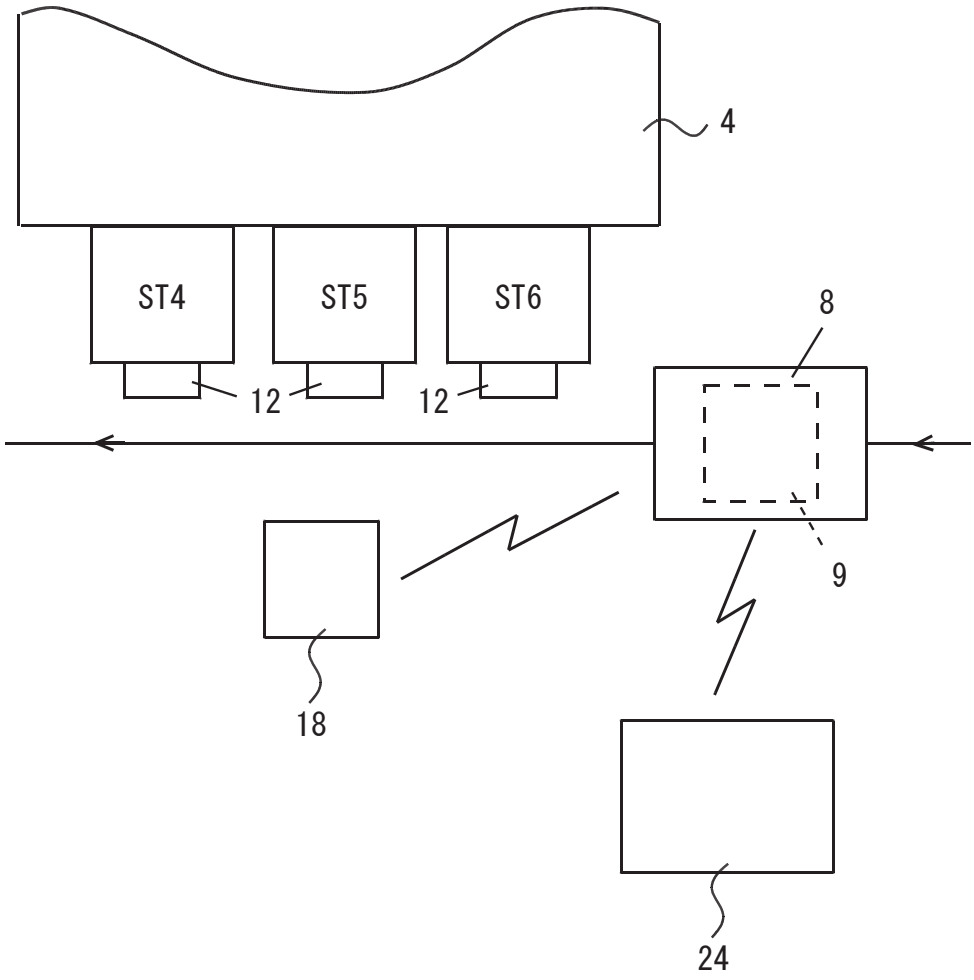


FIG. 14

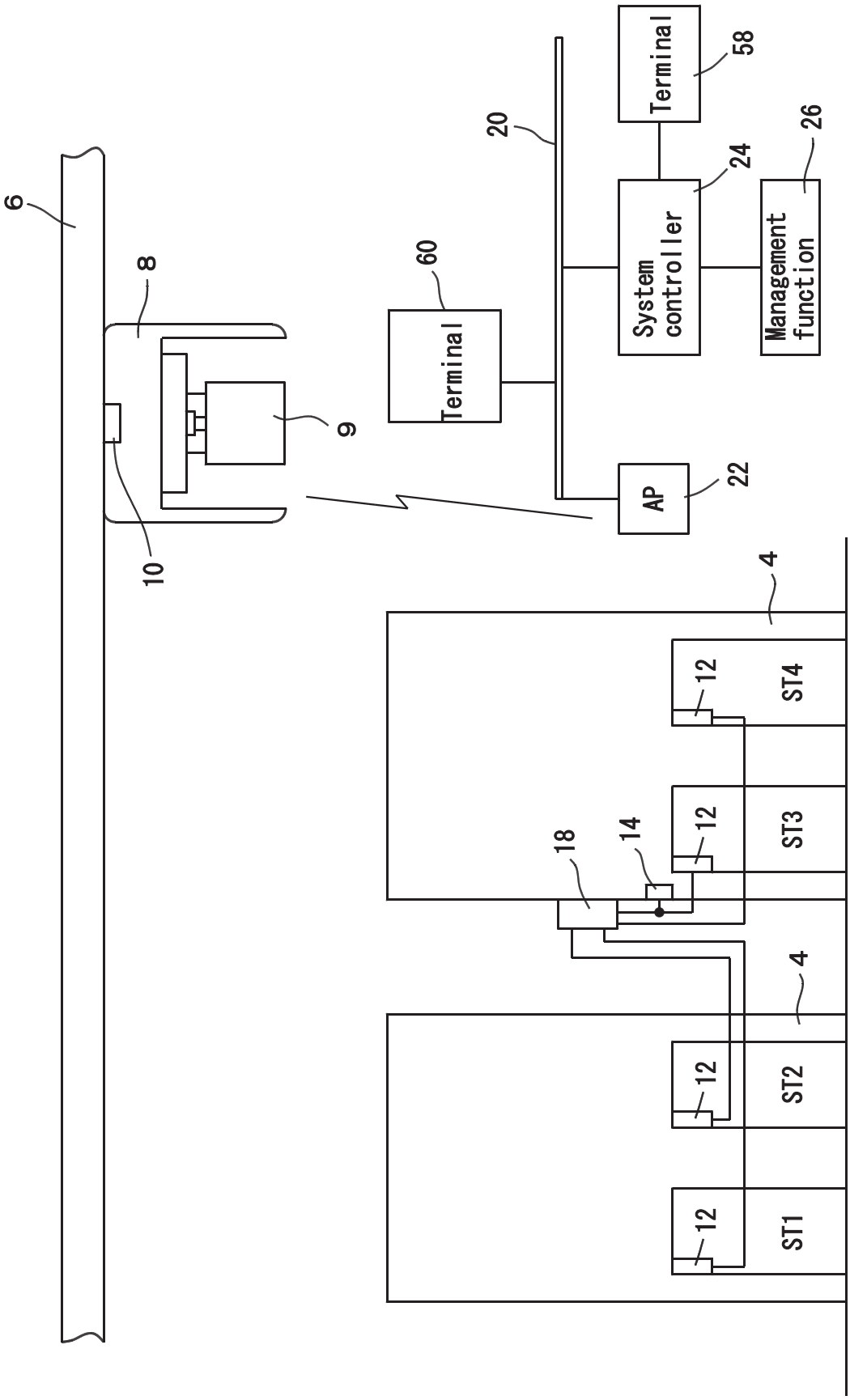
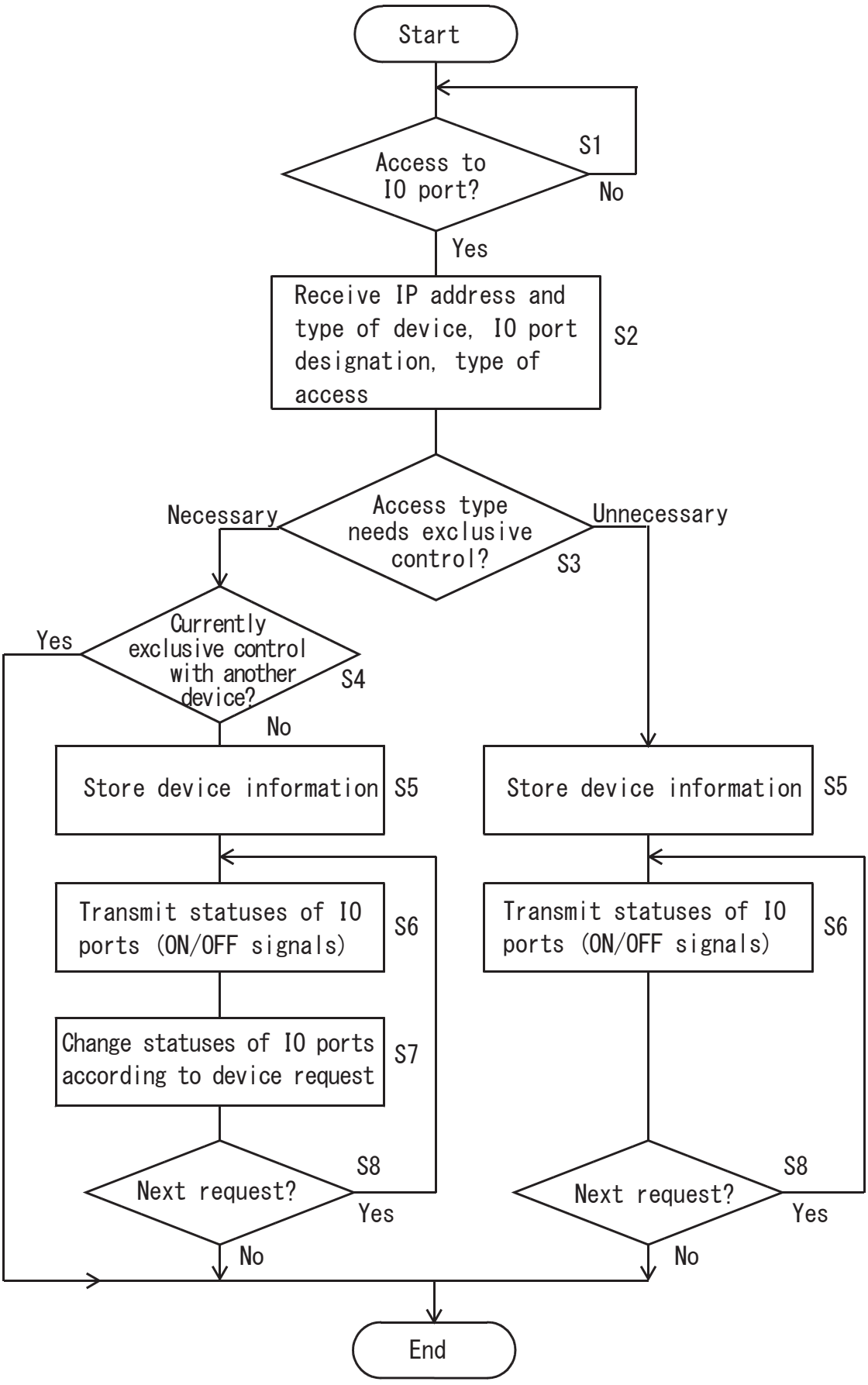

6
8
9
10
60
Terminal
20
Terminal
58
24
System controller
26
Management function
AP
22
4
12
ST4
12
ST3
18
14
4
12
ST2
12
ST1

FIG. 15


Start
Access to IO port?
S1
No
Yes
Receive IP address and type of device, IO port designation, type of access
S2
Access type needs exclusive control?
S3
Necessary
Unnecessary
Currently exclusive control with another device?
S4
Yes
No
Store device information
S5
Store device information
S5
Transmit statuses of IO ports (ON/OFF signals)
S6
Transmit statuses of IO ports (ON/OFF signals)
S6
Change statuses of IO ports according to device request
S7
Next request?
S8
Yes
No
Next request?
S8
Yes
No
End