FIG. 1

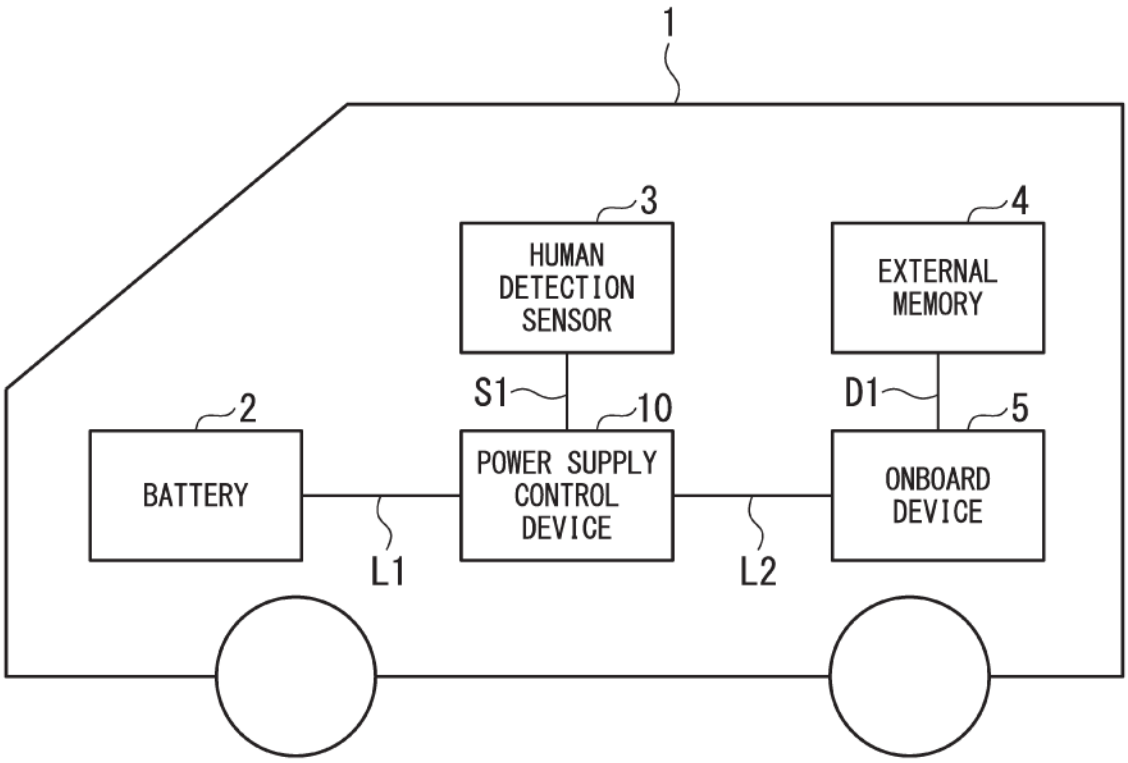

1
3
HUMAN DETECTION SENSOR
4
EXTERNAL MEMORY
S1
10
D1
5
2
BATTERY
POWER SUPPLY CONTROL DEVICE
ONBOARD DEVICE
L1
L2

FIG. 2

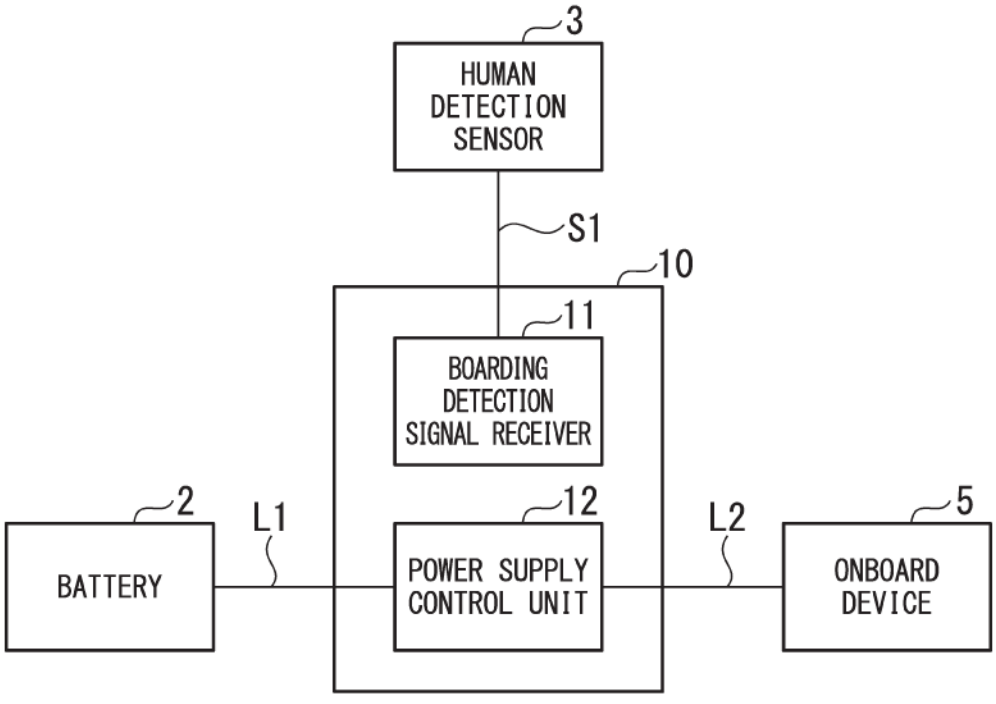

3
HUMAN DETECTION SENSOR
S1
10
11
BOARDING DETECTION SIGNAL RECEIVER
2
L1
12
L2
5
BATTERY
POWER SUPPLY CONTROL UNIT
ONBOARD DEVICE

FIG. 3

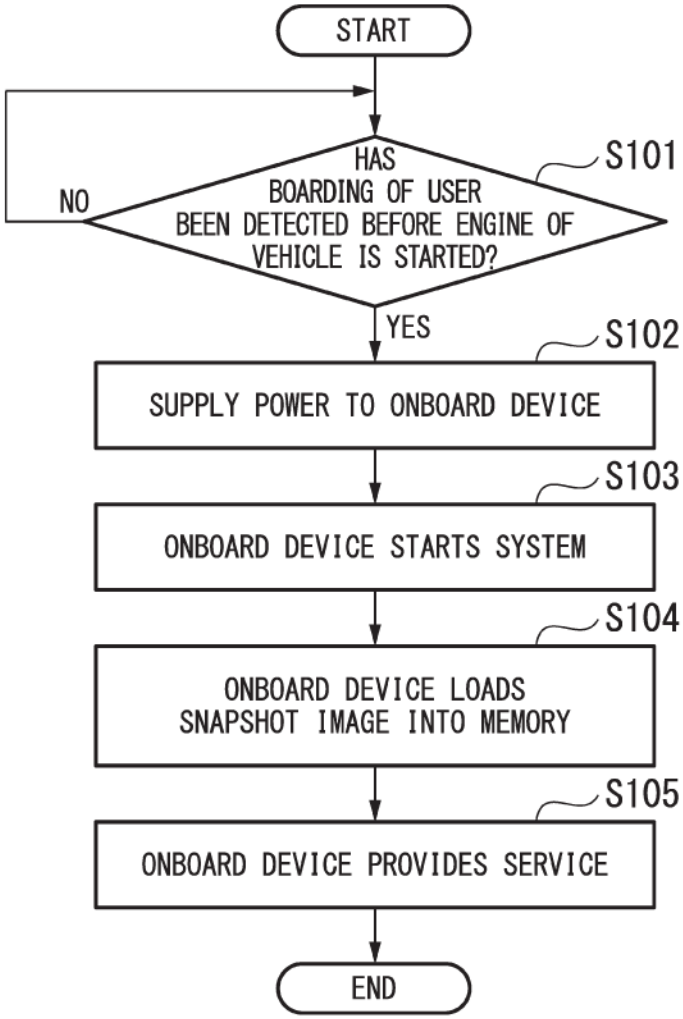

START
HAS BOARDING OF USER BEEN DETECTED BEFORE ENGINE OF VEHICLE IS STARTED?
S101
NO
YES
S102
SUPPLY POWER TO ONBOARD DEVICE
S103
ONBOARD DEVICE STARTS SYSTEM
S104
ONBOARD DEVICE LOADS SNAPSHOT IMAGE INTO MEMORY
S105
ONBOARD DEVICE PROVIDES SERVICE
END

FIG. 4

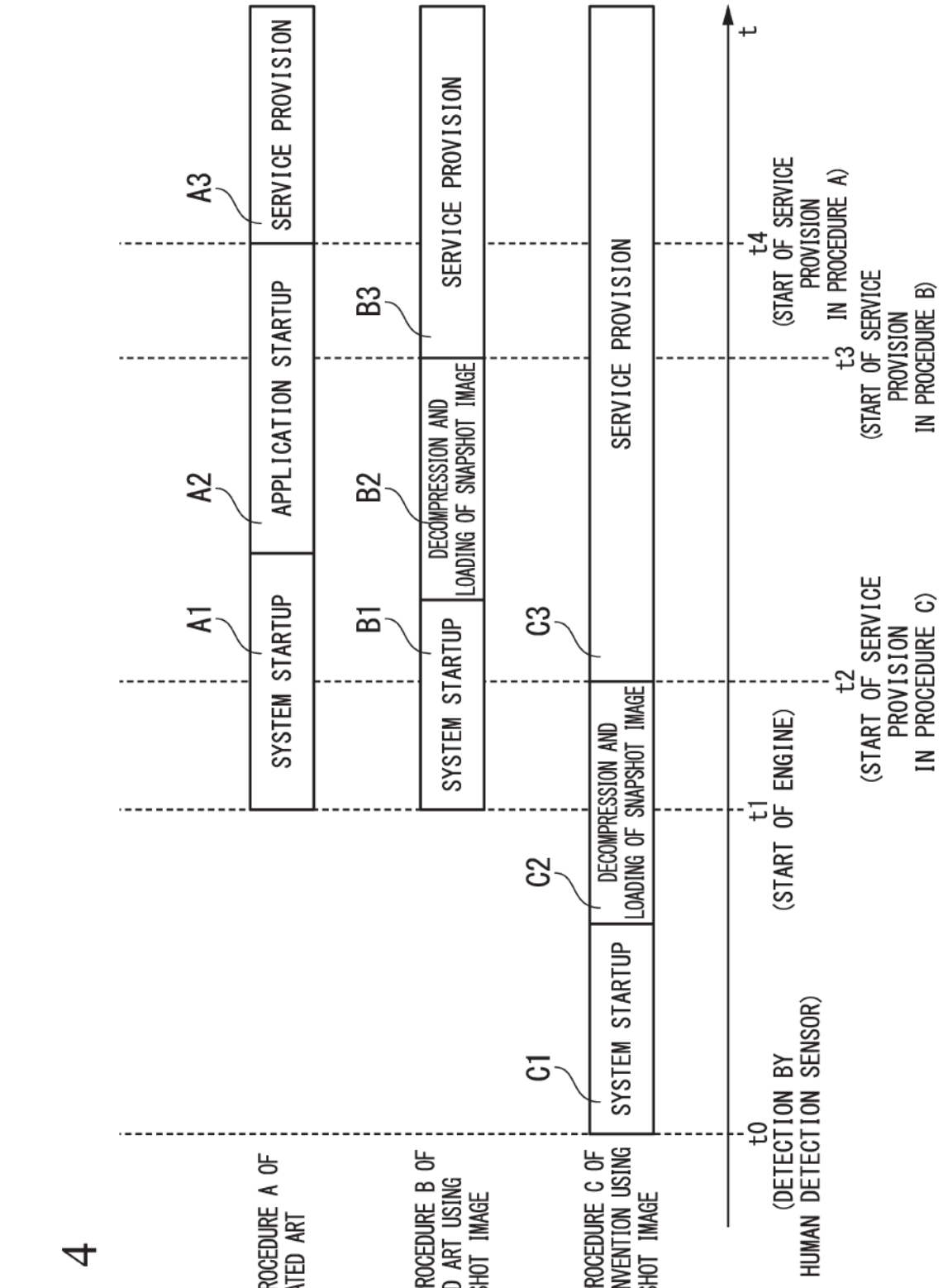

STARTUP PROCEDURE A OF RELATED ART
STARTUP PROCEDURE B OF RELATED ART USING SNAPSHOT IMAGE
STARTUP PROCEDURE C OF PRESENT INVENTION USING SNAPSHOT IMAGE
SYSTEM STARTUP
APPLICATION STARTUP
SERVICE PROVISION
SYSTEM STARTUP
DECOMPRESSION AND LOADING OF SNAPSHOT IMAGE
SERVICE PROVISION
SYSTEM STARTUP
DECOMPRESSION AND LOADING OF SNAPSHOT IMAGE
SERVICE PROVISION
A1
A2
A3
B1
B2
B3
C1
C2
C3
t
t0 (DETECTION BY HUMAN DETECTION SENSOR)
t1 (START OF ENGINE)
t2 (START OF SERVICE PROVISION IN PROCEDURE C)
t3 (START OF SERVICE PROVISION IN PROCEDURE B)
t4 (START OF SERVICE PROVISION IN PROCEDURE A)

FIG. 5

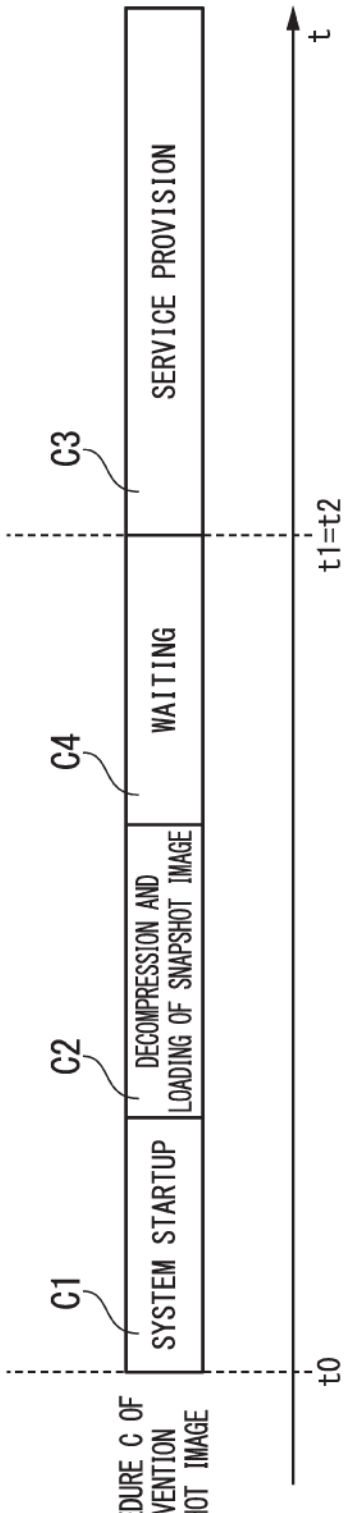

STARTUP PROCEDURE C OF PRESENT INVENTION USING SNAPSHOT IMAGE
C1
SYSTEM STARTUP
C2
DECOMPRESSION AND LOADING OF SNAPSHOT IMAGE
C4
WAITING
C3
SERVICE PROVISION
t0
(DETECTION BY HUMAN DETECTION SENSOR)
t1=t2
(START OF ENGINE)
(START OF SERVICE PROVISION IN PROCEDURE C)
t

FIG. 6

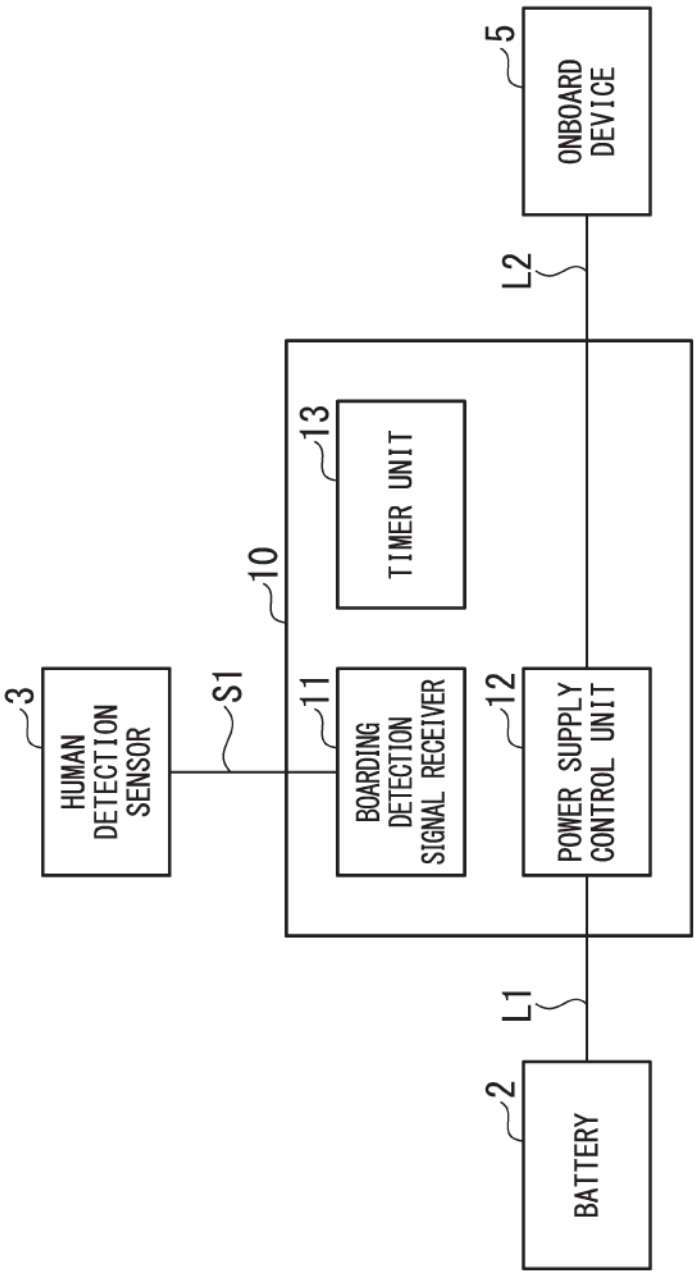

5
ONBOARD DEVICE
L2
10
13
TIMER UNIT
3
HUMAN DETECTION SENSOR
S1
11
BOARDING DETECTION SIGNAL RECEIVER
12
POWER SUPPLY CONTROL UNIT
L1
2
BATTERY

FIG. 7

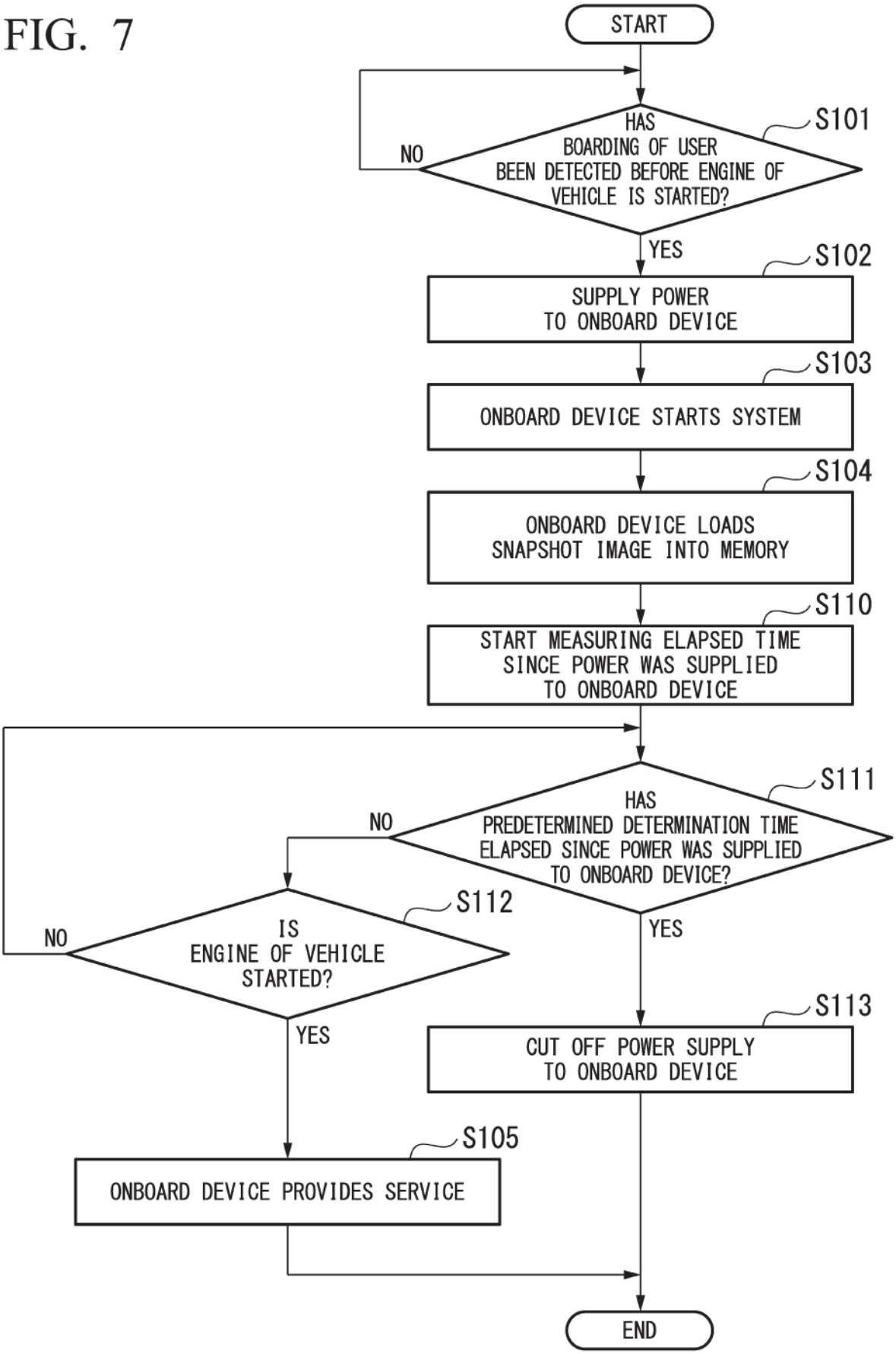
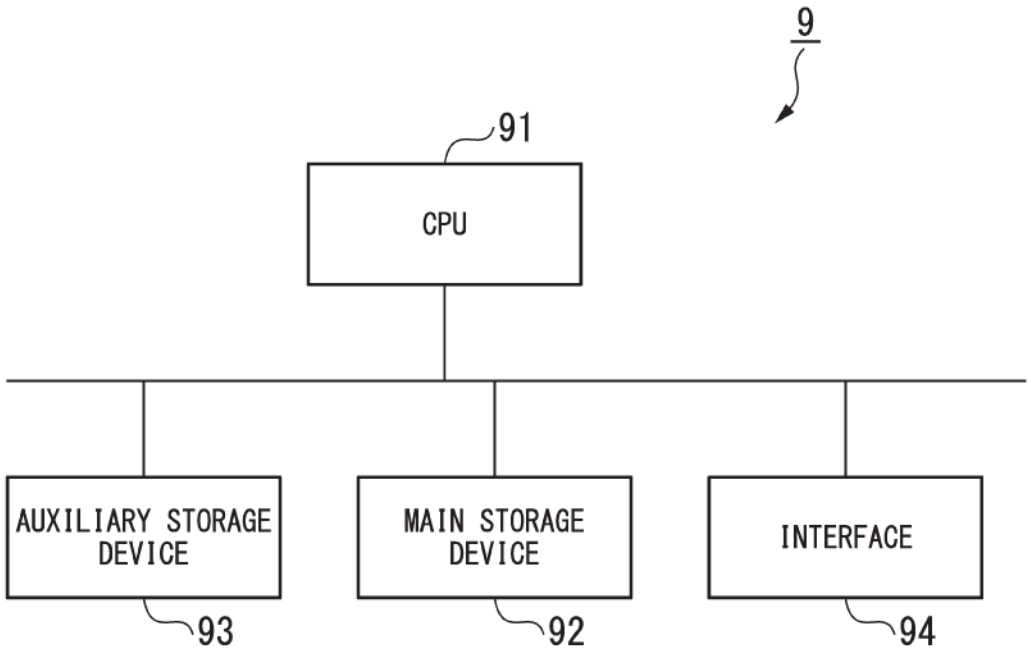

START
HAS BOARDING OF USER BEEN DETECTED BEFORE ENGINE OF VEHICLE IS STARTED?
S101
NO
YES
SUPPLY POWER TO ONBOARD DEVICE
S102
ONBOARD DEVICE STARTS SYSTEM
S103
ONBOARD DEVICE LOADS SNAPSHOT IMAGE INTO MEMORY
S104
START MEASURING ELAPSED TIME SINCE POWER WAS SUPPLIED TO ONBOARD DEVICE
S110
HAS PREDETERMINED DETERMINATION TIME ELAPSED SINCE POWER WAS SUPPLIED TO ONBOARD DEVICE?
S111
NO
YES
IS ENGINE OF VEHICLE STARTED?
S112
NO
YES
CUT OFF POWER SUPPLY TO ONBOARD DEVICE
S113
ONBOARD DEVICE PROVIDES SERVICE
S105
END

FIG. 8


9
91
CPU
AUXILIARY STORAGE DEVICE
93
MAIN STORAGE DEVICE
92
INTERFACE
94