United States Patent [19]

Hapka

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[54] **REMOTE CONTROL OF ENGINE IDLING TIME**

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[21] Appl. No.: **325,908**

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[51] **Int. Cl.^{6}** **G06F 11/30**

[52] **U.S. Cl.** **364/424.045**; 364/424.03; 364/431.09; 123/179.2; 123/179.4; 340/825.29

[58] **Field of Search** .... 364/424.03, 424.04, 364/424.07, 424.05, 550, 431.09; 123/198 D, 198 DC, 179.2, 179.3, 179.4; 340/439, 441, 825.06, 825.29

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[57] **ABSTRACT**

A system for remotely accessing an engine control system and selectively controlling and changing an existing engine algorithm. In a preferred embodiment, the system comprises an on-board vehicle communications system which receives and sends data to a remote central fixed base site. A truck operator contacts the fleet base manager via the on-board communications system and requests, for example, that the engine idle for a specified period of time. The fleet base manager at the remote central fixed based site then transmits data from a computer over a communications channel to the vehicle's on-board communications system. The data is sent through a remote command interface device which translates the data in language recognizable by an engine control device. Based on the data transmitted, the engine control device disables an existing idle shutdown system and permits the engine to remain idle for an amount of time specified by the truck fleet manager.
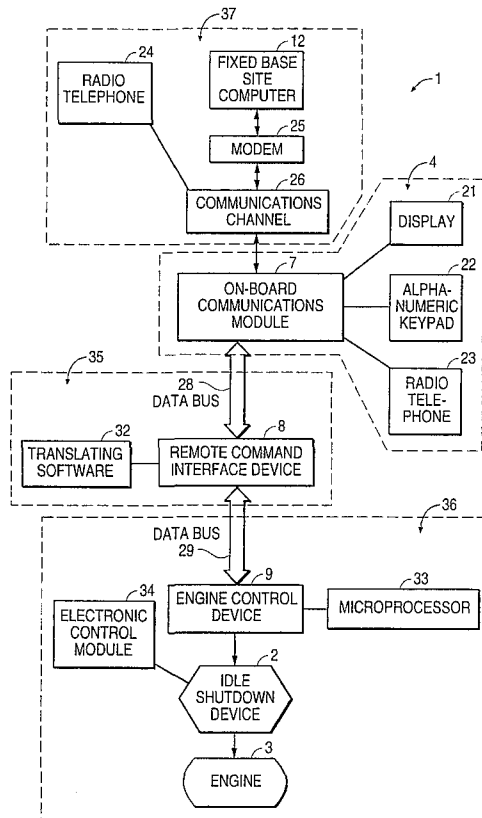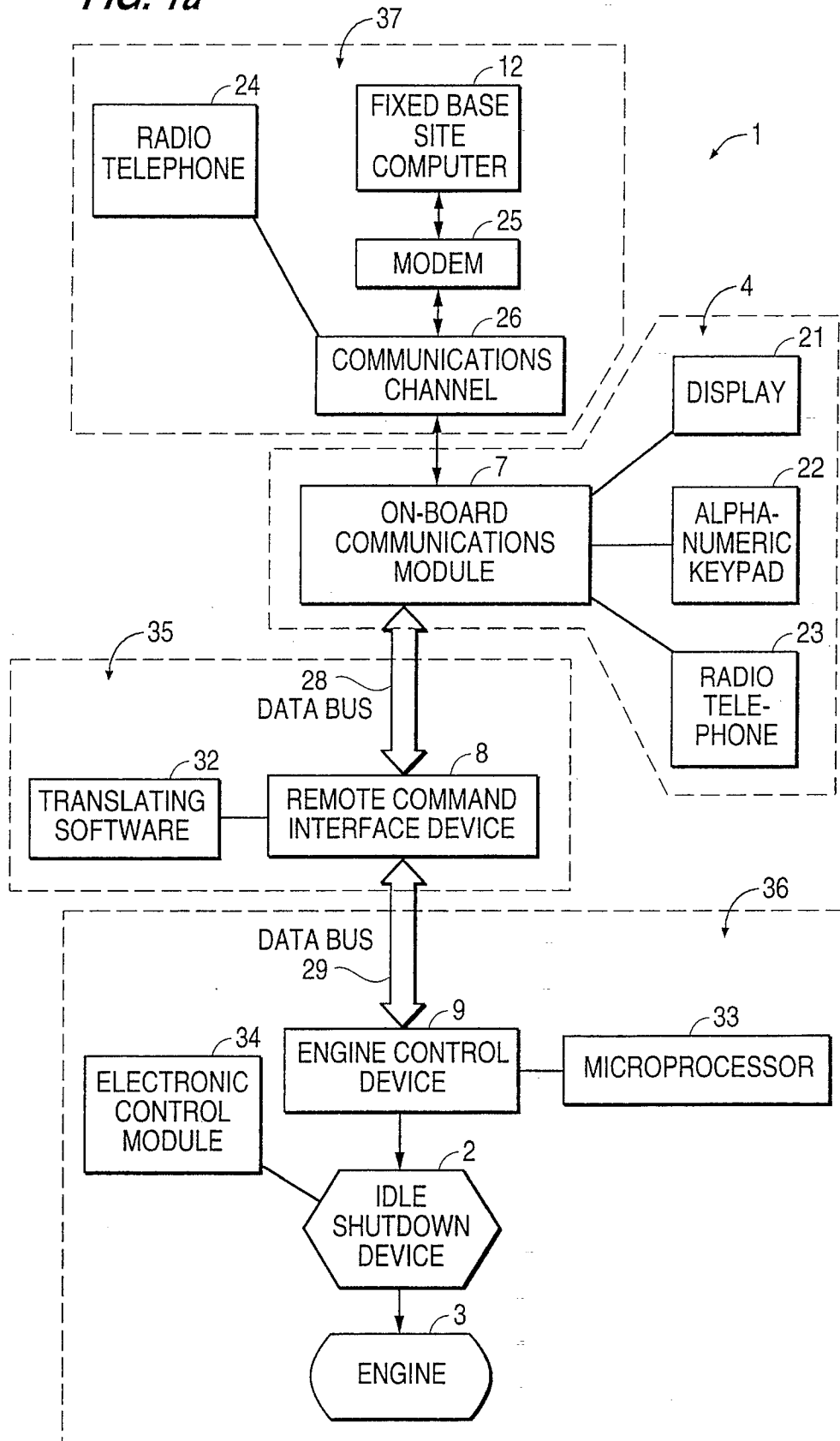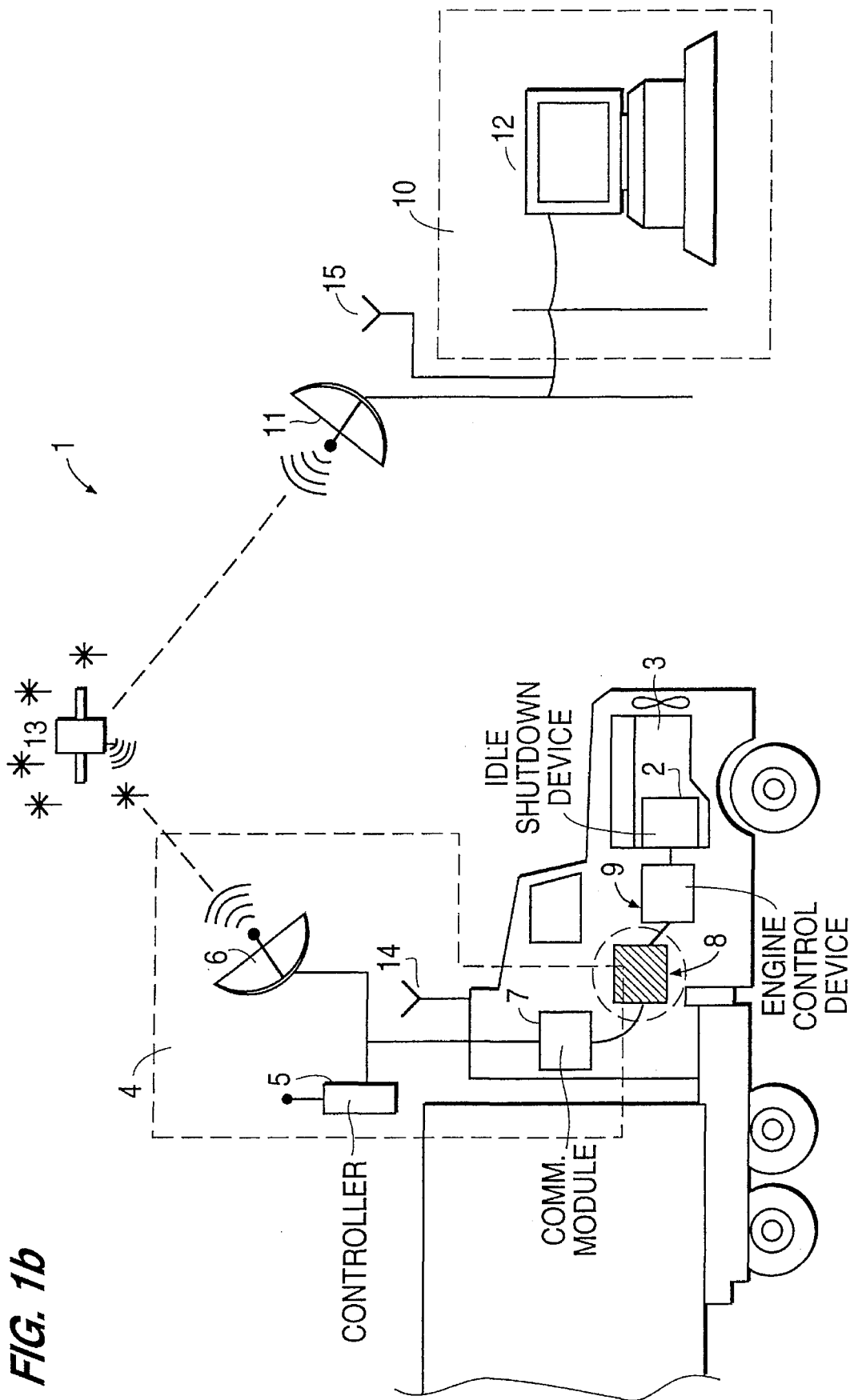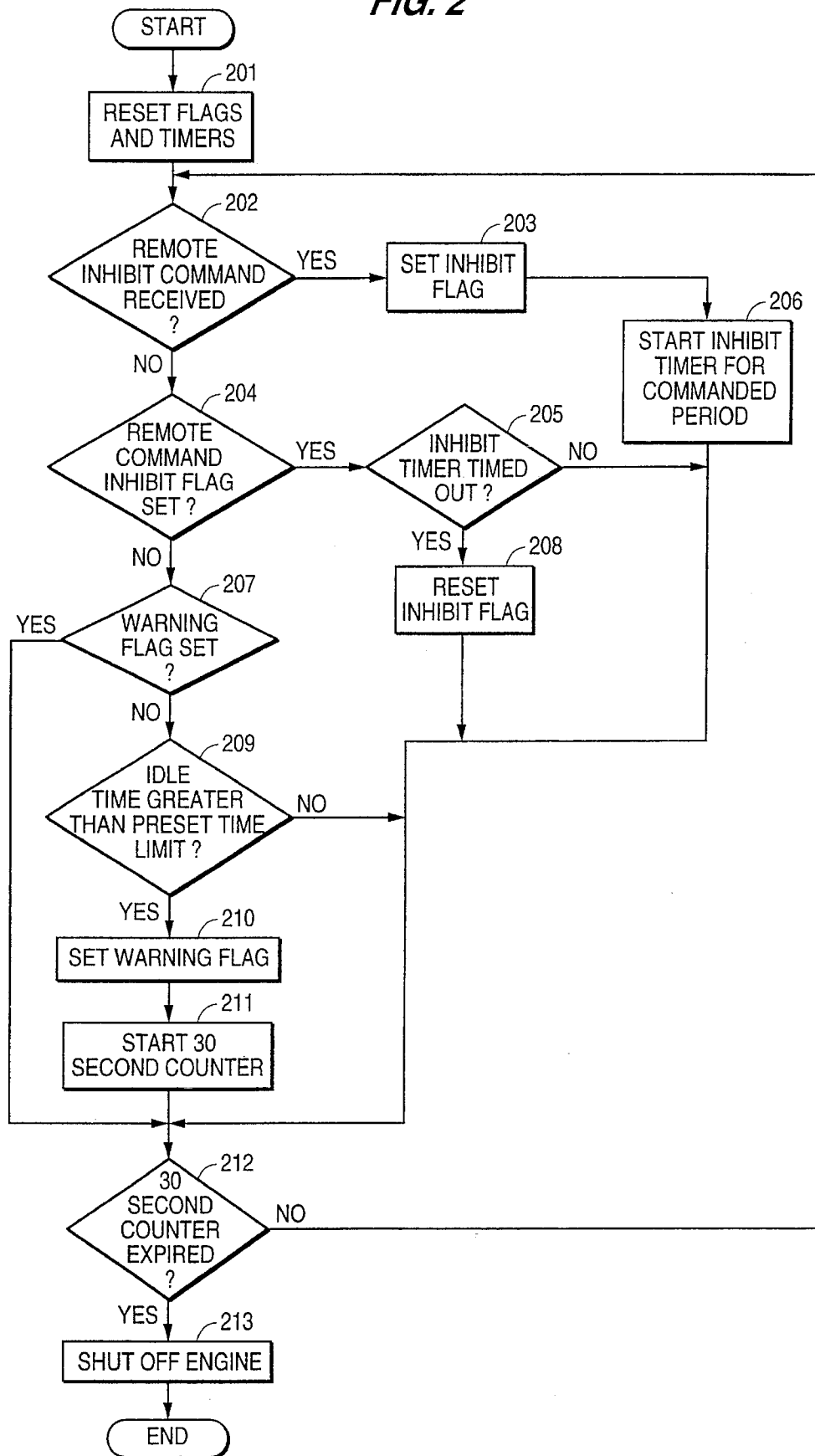
25 Claims, 7 Drawing Sheets

FIG. 1a

FIG. 1b

FIG. 2

START

201
RESET FLAGS
AND TIMERS

202
REMOTE
INHIBIT COMMAND
RECEIVED
?

YES →

203
SET INHIBIT
FLAG

206
START INHIBIT
TIMER FOR
COMMANDED
PERIOD

NO ↓

204
REMOTE
COMMAND
INHIBIT FLAG
SET ?

YES →

205
INHIBIT
TIMER TIMED
OUT ?

NO →

YES ↓

208
RESET
INHIBIT FLAG

NO ↓

207
WARNING
FLAG SET
?

YES →

NO ↓

209
IDLE
TIME GREATER
THAN PRESET TIME
LIMIT ?

NO →

YES ↓

210
SET WARNING FLAG

211
START 30
SECOND COUNTER

212
30
SECOND
COUNTER
EXPIRED
?

NO →

YES ↓

213
SHUT OFF ENGINE

END

FIG. 3

START

301

RECEIVE COMMAND DATA FROM
COMMUNICATIONS MODULE

302

IS
DATA A REMOTE
ENGINE CONTROL
COMMAND

NO

YES

303

DISPLAY RECEIVED
MESSAGE FOR
OPERATOR

304

DETERMINE COMMAND
DESTINATION

305

DETERMINE COMMANDED
PARAMETERS

306

CODE COMMAND FOR
TRANSMISSION TO DESTINATION
DEVICE

307

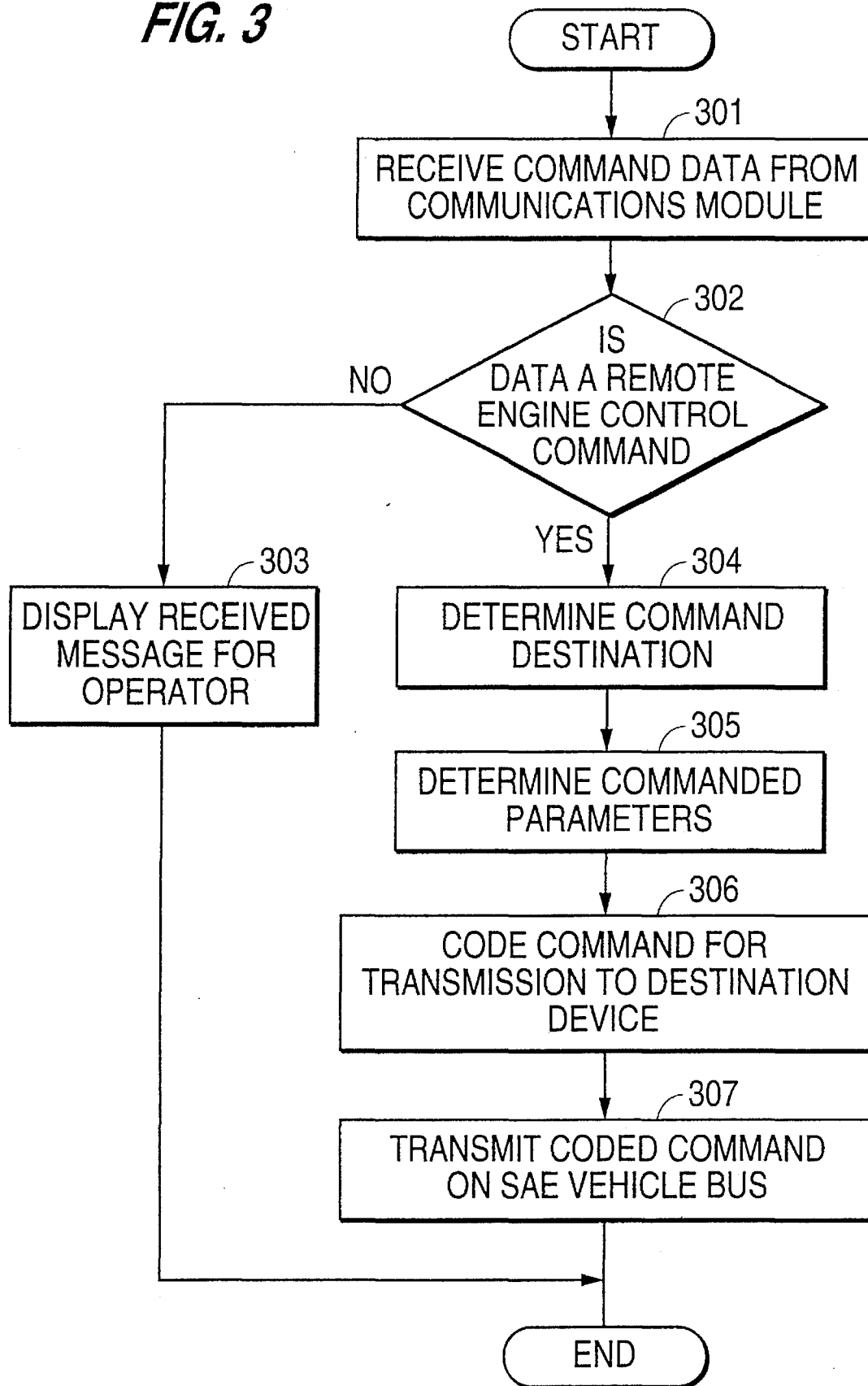TRANSMIT CODED COMMAND
ON SAE VEHICLE BUS

END

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