



US 20240214241A1

(19) **United States**(12) **Patent Application Publication**
GOTO(10) **Pub. No.: US 2024/0214241 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **METHOD FOR DETERMINING LAYOUT OF ECU****Publication Classification**(71) Applicant: **TOYOTA JIDOSHA KABUSHIKI KAISHA**, Toyota-shi (JP)(72) Inventor: **Keita GOTO**, Toyota-shi (JP)(73) Assignee: **TOYOTA JIDOSHA KABUSHIKI KAISHA**, Toyota-shi (JP)(21) Appl. No.: **18/491,062**(22) Filed: **Oct. 20, 2023**(30) **Foreign Application Priority Data**

Dec. 21, 2022 (JP) 2022-203900

(51) **Int. Cl.**
H04L 12/40 (2006.01)(52) **U.S. Cl.**
CPC **H04L 12/40006** (2013.01); **H04L 2012/40273** (2013.01)(57) **ABSTRACT**

ECU is laid out based on the number of wires and the diameter of the wires used in the in-vehicle networking. A dividing form of the electric wire for realizing the layout of the respective ECU is determined, and a position of the connector arranged at the dividing position and a number of the connectors are determined. It is determined whether or not an ECU having a lower access difficulty exists, and when the bus to which the security risk ECU is connected is a bus to which an ECU having a lower security level is connected, the security risk ECU is laid out on another bus to determine a construction in-vehicle network.

