CLAIMS

1. A vehicle travel control device configured to control traveling of a vehicle based on position information of the vehicle,

the vehicle travel control device being connected to a remote control device configured to operate the traveling of the vehicle through communication via a network,

the vehicle travel control device comprising:

an absolute position calculation unit configured to acquire GNSS information from a GNSS receiver mounted on the vehicle and calculate an absolute position of the vehicle using the GNSS information;

a reception determination unit configured to determine whether GNSS correction information can be received from an external reference station;

a relative position calculation unit configured to calculate a relative position of the vehicle using the GNSS correction information; and

a communication unit configured to transmit the position information of the vehicle to the remote control device,

wherein the communication unit is configured to:

transmit position information based on the relative position in a case in which the GNSS correction information can be received; and

transmit position information based on the absolute position in a case in which the GNSS correction information cannot be received.

2. The vehicle travel control device according to claim 1, further comprising:

a correction position calculation unit configured to acquire acceleration and angular velocity information of the vehicle from an inertial measurement unit mounted on the vehicle and calculate a corrected relative position obtained by correcting the relative position of the vehicle based on the GNSS correction information and the acceleration and angular velocity information,

wherein in a case in which the GNSS correction information can be received, the position information of the vehicle is position information specified using the corrected relative position obtained by correcting the relative position.

3. The vehicle travel control device according to claim 2,

wherein the reception determination unit is further configured to

determine whether the GNSS information can be received, and

determine, in response to determining that the GNSS information can be received, whether the GNSS correction information can be subsequently received, and

wherein in response to determining that the GNSS information cannot be received, the position specification unit specifies the position of the vehicle using an estimated position of the vehicle calculated based on received latest GNSS information and the acceleration and angular velocity information.

4. A method for acquiring vehicle position information executed by a computer configured to control traveling of a vehicle based on position information of the vehicle, the method comprising:

by the computer connected to a remote control device configured to operate the traveling of the vehicle through communication via a network,

acquiring GNSS information from a GNSS receiver mounted on the vehicle, and calculating an absolute position of the vehicle using the GNSS information;

determining whether GNSS correction information can be received from an external reference station;

calculating a relative position of the vehicle using the GNSS correction information; and

transmitting position information based on the relative position to the remote control device in a case in which the GNSS correction information can be received; and

transmitting position information based on the absolute position to the remote control device in a case in which the GNSS correction information cannot be received.

5. A computer-readable recording medium storing a program for acquiring vehicle position information, the program causing a computer, the computer serving as a vehicle travel control device configured to control traveling of a vehicle based on position information of the vehicle, to execute:

a process of acquiring GNSS information from a GNSS receiver mounted on the vehicle and calculating an absolute position of the vehicle using the GNSS information;

a process of determining whether GNSS correction information can be received from an external reference station;

a process of calculating a relative position of the vehicle using the GNSS correction information; and

a process of transmitting position information based on the relative position to a remote control device configured to operate traveling of the vehicle through communication with the computer via a network in a case in which the GNSS correction information can be received and transmitting position information based on the absolute position to the remote control device in a case in which the GNSS correction information cannot be received.

6. A program for acquiring vehicle position information, the program causing a computer serving as a vehicle travel control device configured to control traveling of a vehicle based on position information of the vehicle to execute:

a process of acquiring GNSS information from a GNSS receiver mounted on the vehicle and calculating an absolute position of the vehicle using the GNSS information;

a process of determining whether GNSS correction information required for relative positioning can be received from an external reference station;

a process of calculating a relative position of the vehicle using the GNSS correction information; and

a process of transmitting position information based on the relative position to a remote control device configured to operate traveling of the vehicle through communication with the computer via a network in a case in which the GNSS correction information can be received and transmitting position information based on the absolute position to the remote control device in a case in which the GNSS correction information cannot be received.