transmission information acquirer to the indirect transmitter and the direct transmitter.

[0013]

According to the above-mentioned mobile body transmission control device, the transmission controller included in the mobile body transmission device used for the mobile body allows the wide area transmitter and the direct transmitter to transmit the identical mobile information. The mobile body reception device used for the other mobile body includes the wide area receiver and the direct receiver and can therefore receive the mobile information regardless of whether the wide area transmitter transmits the mobile information or the direct transmitter transmits the mobile information. It is therefore possible to provide the highly robust inter-mobile communication.

[0014]

According to a third aspect of the present disclosure, a mobile body receiving control device that is used for a mobile body having: an indirect receiver receiving other-mobile information via a base station, the other-mobile information being transmitted from an other mobile body relating to the other mobile body; and a direct receiver directly receiving the other-mobile information, the mobile body receiving control device includes: a reception information acquirer that acquires the other-mobile information from the indirect receiver when the indirect receiver receives the other-mobile information, and acquires the other-mobile information from the direct receiver when the direct receiver receives the other-mobile information; an identity determiner that determines whether a most recently acquired other-mobile information is identical to an already acquired other-mobile information when

the reception information acquirer acquires the other-mobile information from one of the indirect receiver and the direct receiver; and a mobile transmitter that transmits the most recently acquired other-mobile information to a mobile controller used for the mobile body when the identity determiner determines that the most recently acquired other-mobile information is not identical to the already acquired other-mobile information.

[0015]

According to the above-mentioned mobile body receiving control device, the transmission controller included in the mobile body transmission device used for the other mobile body allows the wide area transmitter and the direct transmitter to transmit the identical other mobile information. The mobile body reception device used for the mobile body includes the wide area receiver and the direct receiver and can therefore receive the other mobile information regardless of whether the wide area transmitter transmits the other mobile information or the direct transmitter transmits the other mobile information. It is therefore possible to provide the highly robust inter-mobile communication.

BRIEF DESCRIPTION OF DRAWINGS

[0016]

The above and other objects, features and advantages of the present disclosure will become more apparent from the following detailed description made with reference to the accompanying drawings. In the drawings:

FIG. 1 is a diagram illustrating an entire configuration of the inter-vehicle communication system according to a first embodiment;

FIG. 2 is a block diagram illustrating a configuration of an onboard

CLAIMS

1. A system for communication between mobile bodies comprising:

a mobile body transmission device that is used for a first mobile body and successively transmits first mobile information as information about the first mobile body; and

a mobile body reception device that is used for a second mobile body and receives the first mobile information, wherein:

the mobile body transmission device includes:

an indirect transmitter that transmits information via a base station;

a direct transmitter that transmits information according to direct transmission; and

a transmission controller that controls the indirect transmitter and the direct transmitter to transmit an identical first mobile information; and

the mobile body reception device includes:

an indirect receiver that receives the first mobile information transmitted by the indirect transmitter via the base station; and

a direct receiver that directly receives the first mobile information transmitted by the direct transmitter.

2. The system for communication between mobile bodies according to claim 1, wherein:

the transmission controller simultaneously transmits the identical first mobile information to the indirect transmitter and the direct transmitter.

3. The system for communication between mobile bodies according to claim 1 or 2, wherein:

the mobile body reception device further includes:

a reception information acquirer that acquires the first mobile information from the indirect receiver when the indirect receiver receives the first mobile information, and acquires the first mobile information from the direct receiver when the direct receiver receives the first mobile information;

an identity determiner that determines whether a most recently acquired first mobile information is identical to an already acquired first mobile information when the reception information acquirer acquires the first mobile information from one of the indirect receiver and the direct receiver; and

a mobile transmitter that transmits the most recently acquired first mobile information to a mobile controller used for the second mobile body when the identity determiner determines that the most recently acquired first mobile information is not identical to the already acquired first mobile information.

4. The system for communication between mobile bodies according to claim 3, wherein:

the transmission controller puts an identical identification code to the identical first mobile information to be transmitted from the indirect transmitter and the direct transmitter, and transmits the first mobile information; and

the identity determiner determines based on the identification code whether two pieces of the first mobile information are identical.

5. The system for communication between mobile bodies according to claim 1 or 2, wherein:

the transmission controller puts an identical identification code to the identical first mobile information to be transmitted from the indirect transmitter and the direct transmitter, and transmits the first mobile information; and

wherein the mobile body reception device further includes:

a reception information acquirer that acquires the first mobile information from the indirect receiver when the indirect receiver receives the first mobile information, and acquires the first mobile information from the direct receiver when the direct receiver receives the first mobile information;

an identity determiner that compares two pieces of the first mobile information, determines whether the first mobile information acquired by the reception information acquirer from the indirect receiver is identical to the first mobile information acquired by the reception information acquirer from the direct receiver, and determines whether two identification codes put to the two pieces of the first mobile information are identical; and

a mobile transmitter that transmits the first mobile information to a mobile controller used for the second mobile body when the identity determiner determines that the two pieces of the first mobile information are identical and the two identification codes are identical, and does not transmit the first mobile information, which is determined not to be identical, to the mobile controller used for the second mobile body when the identity determiner determines that the two identification codes are identical but the two pieces of the first mobile information are not identical.

the time information represents a current time based on Coordinated Universal Time.

10. The system for communication between mobile bodies according to any one of claims 1 through 9, comprising:

a center that receives the first mobile information transmitted by the indirect transmitter of the mobile body transmission device via the base station, and transfers a received first mobile information to the mobile body reception device used for the second mobile body disposed within a predetermined inter-mobile distance to the first mobile body using the mobile body transmission device.

11. A mobile body transmission control device that is used for a mobile body having an indirect transmitter transmitting information via a base station and a direct transmitter transmitting information according to direct transmission, and successively transmits mobile information about the mobile body, the mobile body transmission control device comprising:

a transmission information acquirer that acquires the mobile information to be transmitted; and

a transmission controller that simultaneously transmits an identical mobile information acquired by the transmission information acquirer to the indirect transmitter and the direct transmitter.

12. A mobile body receiving control device that is used for a mobile body having: an indirect receiver receiving other-mobile information via a base station, the other-mobile information being transmitted from an other mobile

body relating to the other mobile body; and a direct receiver directly receiving the other-mobile information, the mobile body receiving control device comprising:

a reception information acquirer that acquires the other-mobile information from the indirect receiver when the indirect receiver receives the other-mobile information, and acquires the other-mobile information from the direct receiver when the direct receiver receives the other-mobile information;

an identity determiner that determines whether a most recently acquired other-mobile information is identical to an already acquired other-mobile information when the reception information acquirer acquires the other-mobile information from one of the indirect receiver and the direct receiver; and

a mobile transmitter that transmits the most recently acquired other-mobile information to a mobile controller used for the mobile body when the identity determiner determines that the most recently acquired other-mobile information is not identical to the already acquired other-mobile information.