

2 do not perform radio transmission during the second slot T2.

[0080] The slot number j gets back to an initial number ($j = 1$ in the example in the drawing) when reaching a predetermined number m . Therefore, when m slot cycles C_s form a main cycle C_m , a first slot T1 with each of the slot numbers 1 to m occurs once every main cycle C_m .

Note that the time lengths of the cycles C_s and C_m and the total number m of slot cycles C_s can be set by a system operator as appropriate, but in the embodiment, as an example, $C_s = 10$ ms, $C_m = 100$ ms, and $m = 10$.

[0081] In FIG. 5, a black filled circle described in each first slot T1 with the slot number $j = 1$ to 3 represents a roadside wireless device 2 whose transmission time period is assigned to that first slot T1 with the slot number j . Therefore, slots 1 and 2 each having a plurality of black filled circles indicate that the transmission time periods of a plurality of roadside wireless devices 2 overlap each other and the slot number j is shared by the plurality of roadside wireless devices 2.

In the example of FIG. 5, the slot 1 is shared by two roadside wireless devices 2 installed at an intersection J1 and an intersection J11, and the slot 2 is shared by three roadside wireless devices 2 installed at an intersection J2, an intersection J9, and an intersection J10.

[0082] <Configuration of the on-vehicle wireless device>

Referring back to FIG. 4, the on-vehicle wireless device 3 includes a communication unit 31 connected to an antenna 30 for radio communication; a control unit 32 composed of, for example, a processor that performs communication control on the communication unit 31; and a strage unit 33

stored. The free area can be freely defined by a user, and thus, in the frame format of FIG. 6, only portions related to the common area are described.

As shown in FIG. 6, a communication frame includes a “preamble”, a “header portion”, an “actual data portion (payload)”, and a “CRC (Cyclic Redundancy Check)”.

[0091] The “header portion” includes “common area management information” which is basic management information of data to be stored in the common area. The “common area management information” includes a “message ID”, a “vehicle ID”, an “increment counter”, and the like.

The “message ID” stores an identification value of the type of the communication frame (message). The “vehicle ID” stores an identification value of a vehicle 5 which is the generator of vehicle data S4. The “increment counter” stores a number value indicating the transmission order of the communication frame.

[0092] When an on-vehicle wireless device 3 transfers a communication frame by vehicle-to-vehicle communication, the on-vehicle wireless device 3 increments a value stored in an increment counter of the communication frame by one for each transfer.

Therefore, the receiving end of the communication frame can determine, by the number value of the increment counter, whether the received communication frame is a communication frame directly received from the generator or a communication frame indirectly received by a transfer.

[0093] The receiving end of communication frames can also determine the identicalness of data content of the received communication