

CLAIMS

What is claimed is:

1. An apparatus for sending resource scheduling information, comprising a processing unit and a sending unit, wherein

5 the processing unit is configured to generate resource scheduling information based on a plurality of resource units obtained by dividing a to-be-allocated frequency domain resource, wherein the resource scheduling information comprises resource unit allocation information for indicating one or more resource units and station information of a station to which the one or more resource units are allocated, the one or more resource units allocated to one station comprise at
10 least one discrete resource unit, the discrete resource unit comprises a plurality of subcarrier groups discrete in frequency domain, and one subcarrier group comprises one subcarrier or at least two contiguous subcarriers; and

 the sending unit is configured to send the resource scheduling information;

 wherein the resource scheduling information further comprises resource unit type indication
15 information, and the resource unit type indication information indicates whether a resource unit allocated to the station is a discrete resource unit or a contiguous resource unit.

2. An apparatus for receiving resource scheduling information, comprising a receiving unit and a processing unit, wherein

 the receiving unit is configured to receive resource scheduling information, wherein the
20 resource scheduling information comprises resource unit allocation information for indicating one or more resource units and station information of a station to which the one or more resource units are allocated, the one or more resource units allocated to one station comprise at least one discrete resource unit, the discrete resource unit comprises a plurality of subcarrier groups discrete in frequency domain, and one subcarrier group comprises one subcarrier or at least two contiguous
25 subcarriers; and

 the processing unit is configured to determine a resource unit allocation status based on the resource scheduling information;

 wherein the resource scheduling information further comprises resource unit type indication
information, and the resource unit type indication information indicates whether a resource unit
30 allocated to the station is a discrete resource unit or a contiguous resource unit.

3. The apparatus according to claim 1 or 2, wherein the at least one discrete resource unit allocated to the one station comprises a pilot subcarrier.

4. The apparatus according to any one of claims 1 to 3, wherein a location of the pilot subcarrier in the discrete resource unit is the same as a location of the pilot subcarrier when the pilot subcarrier is used as the pilot subcarrier in a contiguous resource unit.

5. The apparatus according to claim 1 or 2, wherein in the plurality of discrete subcarrier groups comprised in the discrete resource unit, every two adjacent subcarrier groups are spaced by a same quantity of subcarriers.

6. The apparatus according to claim 1 or 2, wherein each of the subcarrier groups comprises a same quantity of subcarriers, or at least two subcarrier groups comprise different quantities of subcarriers.

7. The apparatus according to claim 5 or 6, wherein the resource unit allocation information indicates an index of the discrete resource unit.

8. The apparatus according to claim 5 or 6, wherein the resource unit allocation information indicates an index of a start subcarrier and a subcarrier spacing in the discrete resource unit; or the resource unit allocation information indicates an index of an end subcarrier and a subcarrier spacing in the discrete resource unit, wherein

the start subcarrier is a subcarrier with a lowest frequency in the discrete resource unit, the end subcarrier is a subcarrier with a highest frequency in the discrete resource unit, and the subcarrier spacing indicates a quantity of subcarriers that belong to another resource unit that are used as a spacing of between every two adjacent subcarriers in the discrete resource unit.

9. The apparatus according to claim 5 or 6, wherein the resource unit allocation information indicates an index of a first subcarrier in a start subcarrier group in the discrete resource unit, a quantity of subcarriers comprised in the subcarrier group, and a subcarrier group spacing; or the resource unit allocation information indicates an index of a last subcarrier in a start subcarrier group in the discrete resource unit, a quantity of subcarriers comprised in the subcarrier group, and a subcarrier group spacing, wherein

the start subcarrier group is a subcarrier group with a lowest frequency in the discrete unit, and the subcarrier group spacing indicates a quantity of subcarriers between every two adjacent subcarrier groups.

10. The apparatus according to any one of claims 1 to 10, wherein the discrete resource unit

comprises at least 26 subcarriers.

11. A resource scheduling method, comprising:

generating resource scheduling information based on a plurality of resource units obtained by dividing a to-be-allocated frequency domain resource, wherein the resource scheduling information comprises resource unit allocation information for indicating one or more resource units and station information of a station to which the one or more resource units are allocated, the one or more resource units allocated to one station comprise at least one discrete resource unit, the discrete resource unit comprises a plurality of subcarrier groups discrete in frequency domain, and one subcarrier group comprises one subcarrier or at least two contiguous subcarriers; and

10 sending the resource scheduling information;

wherein the resource scheduling information further comprises resource unit type indication information, and the resource unit type indication information indicates whether a resource unit allocated to the station is a discrete resource unit or a contiguous resource unit.

12. A resource scheduling information obtaining method, comprising:

15 receiving resource scheduling information, wherein the resource scheduling information comprises resource unit allocation information for indicating one or more resource units and station information of a station to which the one or more resource units are allocated, the one or more resource units allocated to one station comprise at least one discrete resource unit, the discrete resource unit comprises a plurality of subcarrier groups discrete in frequency domain, and one subcarrier group comprises one subcarrier or at least two contiguous subcarriers; and

determining a resource unit allocation status based on the resource scheduling information;

wherein the resource scheduling information further comprises resource unit type indication information, and the resource unit type indication information indicates whether a resource unit allocated to the station is a discrete resource unit or a contiguous resource unit.

25 13. The method according to claim 11 or 12, wherein the at least one discrete resource unit allocated to the one station comprises a pilot subcarrier.

14. The method according to any one of claims 11 to 13, wherein a location of the pilot subcarrier in the discrete resource unit is the same as a location of the pilot subcarrier when the pilot subcarrier is used as the pilot subcarrier in a contiguous resource unit.

30 15. The method according to claim 11 or 12, wherein in the plurality of discrete subcarrier groups comprised in the discrete resource unit, every two adjacent subcarrier groups are spaced by

a same quantity of subcarriers.

16. The method according to claim 11 or 12, wherein each of the subcarrier groups comprises a same quantity of subcarriers, or at least two subcarrier groups comprise different quantities of subcarriers.

5 17. The method according to claim 15 or 16, wherein the resource unit allocation information indicates an index of the discrete resource unit.

18. The method according to claim 15 or 16, wherein the resource unit allocation information indicates an index of a start subcarrier and a subcarrier spacing in the discrete resource unit; or the resource unit allocation information indicates an index of an end subcarrier and a subcarrier
10 spacing in the discrete resource unit, wherein

the start subcarrier is a subcarrier with a lowest frequency in the discrete resource unit, the end subcarrier is a subcarrier with a highest frequency in the discrete resource unit, and the subcarrier spacing indicates a quantity of subcarriers that belong to another resource unit that are used as a spacing of between every two adjacent subcarriers in the discrete resource unit.

15 19. The method according to claim 15 or 16, wherein the resource unit allocation information indicates an index of a first subcarrier in a start subcarrier group in the discrete resource unit, a quantity of subcarriers comprised in the subcarrier group, and a subcarrier group spacing; or the resource unit allocation information indicates an index of a last subcarrier in a start subcarrier group in the discrete resource unit, a quantity of subcarriers comprised in the subcarrier group, and
20 a subcarrier group spacing, wherein

the start subcarrier group is a subcarrier group with a lowest frequency in the discrete unit, and the subcarrier group spacing indicates a quantity of subcarriers between every two adjacent subcarrier groups.

20. The method according to any one of claims 11 to 19, wherein the discrete resource unit
25 comprises at least 26 subcarriers.

21. An apparatus for sending resource scheduling information, wherein the apparatus for sending resource scheduling information comprises a processor and a transceiver; and when the processor executes a computer program or instructions in the memory, the method according to any one of claims 11 to 19 is performed.

30 22. A computer-readable storage medium, wherein the computer-readable storage medium stores computer instructions, and the computer instructions instruct a communication apparatus to

perform the method according to claims 1 to 9, or perform the method according to claims 11 to 19.