WHAT IS CLAIMED IS:

1. A method for sending data, comprising:

transmitting data bit 1 by a periodic wave with a period T1 and transmitting data bit 0 by a periodic wave with a period T2, T1 being unequal to T2; and

sending continuously a corresponding periodic wave according to a bit sequence of data to be sent.

2. The method according to claim 1, wherein the periodic wave is: a sine wave, a square wave or a triangular wave.

3. The method according to claim 1, wherein

the bit sequence of the data to be sent comprises successively a synchronous head, a character to be transmitted and a synchronous tail;

the synchronous head has M bits and M is greater than or equal to 2; and

bit values of the M bits of the synchronous head are the same.

4. The method according to claim 1, wherein

the bit sequence of the data to be sent comprises successively a synchronous head, a character to be transmitted and a synchronous tail;

the synchronous tail has N bits and N is greater than or equal to 2; and

bit values of the N bits of the synchronous tail are the same.

5. The method according to claim 3, wherein

the character to be transmitted comprises successively at least 1 bit of a start bit , at least 1 bit of a data bit and at least 1 bit of a stop bit; and

bit values of the start bit are the same and are unequal to the bit values of the synchronous head.

6. The method according to claim 4, wherein

the character to be transmitted comprises successively at least 1 bit of a start bit , at least 1 bit of a data bit and at least 1 bit of a stop bit ; and

bit values of the stop bit are the same and are unequal to the bit values of the synchronous tail.

7. The method according to claim 1, wherein T1:T2=1.5:1.

8. The method according to claim 3, wherein M=20 and the synchronous head consists of M

bits of 1.

9. The method according to claim 4, wherein N=20 and the synchronous tail consists of N bits of 0.

10. A data sending device, comprising:

a bit sequence generating unit configured to generate and output a bit sequence of data to be sent; and

a wave generating and sending unit configured to transmit data bit 1 by a periodic wave with a period T1, to transmit data bit 0 by a periodic wave with a period T2, wherein the wave generating and sending unit sends continuously a corresponding periodic wave according to the bit sequence of the data to be sent.

11. The data sending device according to claim 10, wherein the periodic wave is: a sine wave, a square wave or a triangular wave.

12. The data sending device according to claim 10, wherein

the bit sequence generating unit is configured to generate the following bit sequence of data to be sent: a synchronous head, a character to be transmitted and a synchronous tail;

the synchronous head has M bits and M is greater than or equal to 2;

bit values of the M bits of the synchronous head are the same; and

the character to be transmitted contains a character in the data to be sent.

13. The data sending device according to claim 10, wherein

the bit sequence generating unit is configured to generate the following bit sequence of data to be sent: a synchronous head, a character to be transmitted and a synchronous tail;

the synchronous tail has N bits and N is greater than or equal to 2;

bit values of the N bits of the synchronous tail are the same; and

the character to be transmitted contains a character in the data to be sent.

14. The data sending device according to claim 12, wherein

the character to be transmitted comprises successively at least 1 bit of a start bit, at least 1 bit of a data bit and at least 1 bit of a stop bit; and

bit values of the start bit are the same and are unequal to the bit values of the synchronous head.

15. The data sending device according to claim 13, wherein

the character to be transmitted comprises successively at least 1 bit of a start bit , at least 1 bit

of a data bit and at least 1 bit of a stop bit; and

bit values of the stop bit are the same and are unequal to the bit values of the synchronous tail.

16. The data sending device according to claim 10, wherein T1:T2=1.5:1.

17. The data sending device according to claim 12, wherein M=20 and the synchronous head consists of M bits of 1.

18. The data sending device according to claim 13, wherein N=20 and the synchronous tail consists of N bits of 0.

19. A method for receiving data, comprising:

receiving continuously a periodic wave; and

determining a bit sequence of received data according to a period of the periodic wave, wherein data bit 1 is transmitted by the periodic wave with a period T1, data bit 0 is transmitted by the periodic wave with a period T2, and T1 is unequal to T2.

20. The method according to claim 19, wherein the periodic wave is: a sine wave, a square wave or a triangular wave.

21. The method according to claim 20, wherein if the periodic wave is the sine wave or the triangular wave, determining a bit sequence of received data according to a period of the periodic wave comprises:

converting the sine wave or the triangular wave into a corresponding square wave, and determining the bit sequence of the received data according to a time interval between rising edges of neighboring square waves; or

converting the sine wave or the triangular wave into a corresponding square wave, and determining the bit sequence of the received data according to a time interval between falling edges of neighboring square waves.

22. The method according to claim 20 or 21, wherein

the bit sequence of the received data comprises successively a synchronous head, a character to be transmitted and a synchronous tail;

the synchronous head has M bits and M is greater than or equal to 2; and

bit values of the M bits of the synchronous head are the same.

23. The method according to claim 20 or 21, wherein

the bit sequence of the received data comprises successively a synchronous head, a character

to be transmitted and a synchronous tail;

the synchronous tail has N bits and N is greater than or equal to 2; and

bit values of the N bits of the synchronous tail are the same.

24. The method according to claim 22, wherein

the character to be transmitted comprises successively: at least 1 bit of a start bit , at least 1 bit of a data bit and at least 1 bit of a stop bit; and

bit values of the start bit are the same and are unequal to the bit values of the synchronous head.

25. The method according to claim 23, wherein

the character to be transmitted comprises successively at least 1 bit of a start bit , at least 1 bit of a data bit and at least 1 bit of a stop bit; and

bit values of the stop bit are the same and are unequal to the bit values of the synchronous tail.

26. The method according to claim 19, wherein T1:T2=1.5:1.

27. The method according to claim 22, wherein M=20 and the synchronous head consists of M bits of 1.

28. The method according to claim 23, wherein N=20 and the synchronous tail consists of N bits of 0.

29. A data receiving device, comprising:

a receiving unit configured to receive and output a continuously periodic wave; and

a determining unit configured to determine a bit sequence of received data according to a period of the periodic wave output by the receiving unit, wherein data bit 1 is transmitted by the periodic wave with a period T1, data bit 0 is transmitted by the periodic wave with a period T2, and the T1 is unequal to T2.

30. The data receiving device according to claim 29, wherein the periodic wave is: a sine wave, a square wave or a triangular wave.

31. The data receiving device according to claim 30, wherein if the periodic wave is the sine wave or the triangular wave, the determining unit is configured

to convert the sine wave or the triangular wave into the corresponding square wave and to determine the bit sequence of the received data according to a time interval between rising edges of neighboring square waves; or

to convert the sine wave or the triangular wave into a corresponding square wave, and to determine the bit sequence of the received data according to a time interval between falling edges of neighboring square waves.

32. The data receiving device according to claim 30 or 31, wherein the determining unit is configured to determine that

the bit sequence of the received data comprises successively a synchronous head, a character to be transmitted and a synchronous tail;

the synchronous head has M bits and M is greater than or equal to 2; and

bit values of the M bits of the synchronous head are the same.

33. The data receiving device according to claim 30 or 31, wherein the unit is configured to determine that

the bit sequence of the received data comprises successively a synchronous head, a character to be transmitted and a synchronous tail;

the synchronous tail has N bits and N is greater than or equal to 2; and

bit values of the N bits of the synchronous tail are the same.

34. The data receiving device according to claim 32, wherein

the character to be transmitted comprises successively at least 1 bit of a start bit , at least 1 bit of a data bit and at least 1 bit of a stop bit; and

bit values of the start bit are the same and are unequal to the bit values of the synchronous head.

35. The data receiving device according to claim 33, wherein

the character to be transmitted comprises successively at least 1 bit of a start bit , at least 1 bit of a data bit and at least 1 bit of a stop bit; and

bit values of the stop bit are the same and are unequal to the bit values of the synchronous tail.

36. The data receiving device according to claim 29, wherein T1:T2=1.5:1.

37. The data receiving device according to claim 32, wherein M=20 and the synchronous head consists of M bits of 1.

38. The data receiving device according to claim 33, wherein N=20 and the synchronous tail consists of N bits of 0.

WHAT IS CLAIMED IS:

1. A method for sending data, comprising:

transmitting data bit 1 by a periodic wave with a period T1 and transmitting data bit 0 by a periodic wave with a period T2, T1 being unequal to T2; and

sending continuously a corresponding periodic wave according to a bit sequence of data to be sent, wherein

the bit sequence of the data to be sent comprises successively a synchronous head, a character to be transmitted and a synchronous tail;

the synchronous head has M bits and M is greater than or equal to 2;

bit values of the M bits of the synchronous head are the same;

the synchronous tail has N bits and N is greater than or equal to 2; and

bit values of the N bits of the synchronous head are the same.

2. The method according to claim 1, wherein the periodic wave is: a sine wave, a square wave or a triangular wave.

3. The method according to claim 1, wherein

the character to be transmitted comprises successively at least 1 bit of a start bit , at least 1 bit of a data bit and at least 1 bit of a stop bit; and

bit values of the start bit are the same and are unequal to the bit values of the synchronous head.

4. The method according to claim 1, wherein

the character to be transmitted comprises successively at least 1 bit of a start bit , at least 1 bit of a data bit and at least 1 bit of a stop bit ; and

bit values of the stop bit are the same and are unequal to the bit values of the synchronous tail.

5. The method according to claim 1, wherein T1:T2=1.5:1.

6. The method according to claim 1, wherein M=20 and the synchronous head consists of M bits of 1.

7. The method according to claim 1, wherein N=20 and the synchronous tail consists

of N bits of 0.

8. A data sending device, comprising:

a bit sequence generating unit configured to generate and output a bit sequence of data to be sent; and

a wave generating and sending unit configured to transmit data bit 1 by a periodic wave with a period T1, to transmit data bit 0 by a periodic wave with a period T2, wherein the wave generating and sending unit sends continuously a corresponding periodic wave according to the bit sequence of the data to be sent, and

the bit sequence generating unit is configured to generate the following bit sequence of data to be sent: a synchronous head, a character to be transmitted and a synchronous tail;

the synchronous head has M bits and M is greater than or equal to 2;

bit values of the M bits of the synchronous head are the same;

the synchronous tail has N bits and N is greater than or equal to 2;

bit values of the N bits of the synchronous tail are the same; and

the character to be transmitted contains a character in the data to be sent.

9. The data sending device according to claim 8, wherein the periodic wave is: a sine wave, a square wave or a triangular wave.

10. The data sending device according to claim 8, wherein

the character to be transmitted comprises successively at least 1 bit of a start bit, at least 1 bit of a data bit and at least 1 bit of a stop bit; and

bit values of the start bit are the same and are unequal to the bit values of the synchronous head.

11. The data sending device according to claim 8, wherein

the character to be transmitted comprises successively at least 1 bit of a start bit , at least 1 bit of a data bit and at least 1 bit of a stop bit; and

bit values of the stop bit are the same and are unequal to the bit values of the synchronous tail.

12. The data sending device according to claim 8, wherein T1:T2=1.5:1.

13. The data sending device according to claim 8, wherein M=20 and the synchronous

head consists of M bits of 1.

14. The data sending device according to claim 8, wherein N=20 and the synchronous tail consists of N bits of 0.

15. A method for receiving data, comprising:

receiving continuously a periodic wave; and

determining a bit sequence of received data according to a period of the periodic wave, wherein data bit 1 is transmitted by the periodic wave with a period T1, data bit 0 is transmitted by the periodic wave with a period T2, and T1 is unequal to T2, and

the bit sequence of the received data comprises successively a synchronous head, a character to be transmitted and a synchronous tail;

the synchronous head has M bits and M is greater than or equal to 2;

bit values of the M bits of the synchronous head are the same;

the synchronous tail has N bits and N is greater than or equal to 2; and

bit values of the N bits of the synchronous head are the same.

16. The method according to claim 15, wherein the periodic wave is: a sine wave, a square wave or a triangular wave.

17. The method according to claim 16, wherein if the periodic wave is the sine wave or the triangular wave, determining a bit sequence of received data according to a period of the periodic wave comprises:

converting the sine wave or the triangular wave into a corresponding square wave, and determining the bit sequence of the received data according to a time interval between rising edges of neighboring square waves; or

converting the sine wave or the triangular wave into a corresponding square wave, and determining the bit sequence of the received data according to a time interval between falling edges of neighboring square waves.

18. The method according to claim 15, wherein

the character to be transmitted comprises successively: at least 1 bit of a start bit , at least 1 bit of a data bit and at least 1 bit of a stop bit; and

bit values of the start bit are the same and are unequal to the bit values of the

synchronous head.

19. The method according to claim 15, wherein

the character to be transmitted comprises successively at least 1 bit of a start bit , at least 1 bit of a data bit and at least 1 bit of a stop bit; and

bit values of the stop bit are the same and are unequal to the bit values of the synchronous tail.

20. The method according to claim 15, wherein T1:T2=1.5:1.

21. The method according to claim 15, wherein M=20 and the synchronous head consists of M bits of 1.

22. The method according to claim 15, wherein N=20 and the synchronous tail consists of N bits of 0.

23. A data receiving device, comprising:

a receiving unit configured to receive and output a continuously periodic wave; and

a determining unit configured to determine a bit sequence of received data according to a period of the periodic wave output by the receiving unit, wherein data bit 1 is transmitted by the periodic wave with a period T1, data bit 0 is transmitted by the periodic wave with a period T2, and the T1 is unequal to T2, and

the determining unit is configured to determine that

the bit sequence of the received data comprises successively a synchronous head, a character to be transmitted and a synchronous tail;

the synchronous head has M bits and M is greater than or equal to 2;

bit values of the M bits of the synchronous head are the same;

the synchronous tail has N bits and N is greater than or equal to 2; and

bit values of the N bits of the synchronous tail are the same.

24. The data receiving device according to claim 23 wherein the periodic wave is: a sine wave, a square wave or a triangular wave.

25. The data receiving device according to claim 24, wherein if the periodic wave is the sine wave or the triangular wave, the determining unit is configured

to convert the sine wave or the triangular wave into the corresponding square wave

and to determine the bit sequence of the received data according to a time interval between rising edges of neighboring square waves; or

to convert the sine wave or the triangular wave into a corresponding square wave, and to determine the bit sequence of the received data according to a time interval between falling edges of neighboring square waves.

26. The data receiving device according to claim 23, wherein

the character to be transmitted comprises successively at least 1 bit of a start bit , at least 1 bit of a data bit and at least 1 bit of a stop bit; and

bit values of the start bit are the same and are unequal to the bit values of the synchronous head.

27. The data receiving device according to claim 23, wherein

the character to be transmitted comprises successively at least 1 bit of a start bit , at least 1 bit of a data bit and at least 1 bit of a stop bit; and

bit values of the stop bit are the same and are unequal to the bit values of the synchronous tail.

28. The data receiving device according to claim 23, wherein T1:T2=1.5:1.

29. The data receiving device according to claim 23, wherein M=20 and the synchronous head consists of M bits of 1.

30. The data receiving device according to claim 23, wherein N=20 and the synchronous tail consists of N bits of 0.