CLAIMS

1. A peripheral electronic assembly comprising:

a connector comprising:

a first plug, wherein the first plug comprises at least one detection element; and

a second plug connected to the first plug;

a receptacle configured to receive the first plug, the receptacle comprising a sensor configured to detect the at least one detection element; and

a controller coupled with the sensor, wherein the controller is configured to control the peripheral electronic assembly to operate in an analog-audio-signal mode when the sensor detects the at least one detection element.

2. The peripheral electronic assembly of claim 1,

wherein the first plug further comprises:

a first plug terminal; and

a first plug ground terminal,

wherein the at least one detection element comprises a first plug capacitor connected to the first plug terminal at one end, and connected to the first plug ground terminal at the other end,

wherein the receptacle further comprises:

a first receptacle terminal configured to contact with the first plug terminal when the first plug is received in the receptacle,

wherein the sensor comprises a capacitance sensor coupled to the first receptacle terminal, wherein the capacitance sensor is configured to detect a first capacitance at the first receptacle terminal so as to detect the first plug capacitor comprised in the at least one detection element.

3. The peripheral electronic assembly of claim 2, wherein the receptacle further comprises:

a first receptacle ground terminal; and

a first receptacle capacitor connected to the first receptacle terminal at one end, and connected to the first receptacle ground terminal at the other end.

4. The peripheral electronic assembly of claim 3, wherein the detected first capacitance is equal to or greater than 2 times of a capacitance of the first receptacle capacitor.

5. The peripheral electronic assembly of any of claims 2 to 4,

wherein the first plug further comprises:

a second plug terminal,

wherein the at least one detection element further comprises a second plug capacitor connected to the second plug terminal at one end, and connected to a second plug ground terminal at the other end,

wherein the receptacle further comprises:

a second receptacle terminal configured to contact with the second plug terminal when the first plug is received in the receptacle, and

wherein the capacitance sensor is coupled to the second receptacle terminal, wherein the capacitance sensor is configured to detect a second capacitance at the second receptacle terminal so as to detect the second plug capacitor comprised in the at least one detection element.

6. The peripheral electronic assembly of claim 5, wherein the receptacle further comprises a second receptacle capacitor connected to the second receptacle terminal at one end, and connected to the first receptacle ground terminal at the other end.

7. The peripheral electronic assembly of any of claims 2 to 4, wherein the receptacle comprises:

a receptacle data minus (D-) terminal configured for transmitting left channel audio signals;

a receptacle data plus (D+) terminal configured for transmitting right channel audio signals; and

a receptacle sideband use (SBU) terminal configured for transmitting mic channel audio signals.

8. The peripheral electronic assembly of claim 7, wherein the first plug comprises:

a plug data minus (D-) terminal configured to contact with the receptacle data minus (D-) terminal for transmitting left channel audio signals when the first plug is received in the receptacle;

a plug data plus (D+) terminal configured to contact with the receptacle data plus (D+) terminal for transmitting right channel audio signals when the first plug is received in the receptacle; and

a plug sideband use (SBU) terminal configured to contact with the receptacle sideband use (SBU) terminal for transmitting mic channel audio signals when the first plug is received in the receptacle.

9. The peripheral electronic assembly of claim 8, wherein the second plug comprises:

a tip connector connected to the plug data minus (D-) terminal of the first plug and configured for transmitting left channel audio signals;

a first ring connector connected to the plug data plus (D+) terminal of the first plug and configured for transmitting right channel audio signals;

a second ring connector connected to the plug sideband use (SBU) terminal and configured for transmitting mic channel audio signals; and

a sleeve connector connected to the first plug ground terminal.

10. The peripheral electronic assembly of claim 1, wherein (i) the sensor comprises a Hall sensor, and the at least one detection element comprises a magnet; or (ii) the sensor comprises an NFC chip, and the at least one detection element comprises a second NFC chip.

11. The peripheral electronic assembly of any of claims 1 to 4, wherein the second plug is configured to be received in and connect to a jack connector in a host electronic device for transmitting analog audio signals between the host electronic device and the peripheral electronic assembly.

12. A peripheral electronic assembly comprising:

a receptacle configured to receive a first plug, the first plug comprising at least one detection element, the receptacle comprising a sensor configured to detect the at least one detection element; and

a controller coupled with the sensor, wherein the controller is configured to control the peripheral electronic assembly to operate in an analog-audio-signal mode when the sensor detects the at least one detection element.

13. The peripheral electronic assembly of claim 12,

wherein the receptacle further comprises:

a first receptacle terminal, wherein the first receptacle terminal is configured to contact with a first plug terminal comprised in the first plug when the first plug is received in the receptacle,

wherein the sensor comprises a capacitance sensor coupled to the first receptacle terminal, wherein the capacitance sensor is configured to detect a first capacitance at the first receptacle terminal to detect a first plug capacitor comprised in the at least one detection element, wherein the first plug capacitor is connected to the first plug terminal at one end, and connected to a first plug ground terminal comprised in the first plug at the other end.

14. The peripheral electronic assembly of claim 13, wherein the receptacle further comprises:

a first receptacle ground terminal; and

a first receptacle capacitor connected to the first receptacle terminal at one end, and connected to the first receptacle ground terminal at the other end.

15. A connector comprising:

a first plug comprising at least one detection element; and

a second plug connected to the first plug,

wherein the first plug is receivable in a receptacle comprised in a peripheral electronic assembly,

wherein the at least one detection element is detectable by a sensor comprised in the receptacle of the peripheral electronic assembly, and

wherein if the at least one detection element is detected by the sensor, the peripheral electronic assembly operates in an analog-audio-signal mode.