

JACK CONNECTOR DEVICE

Background of the Invention

1. Field of the Invention

The present invention relates to a jack connector device and, more in particular, to a jack connector device which can connect a plurality of jack connectors to a printed circuit board.

2. Description of the Related Art

A modular jack connector is printed circuit board mount type connector and is used to connect a cable which is run from outside a communications unit for instance to a printed circuit board present within the communications unit. In recent years, this type of connector has been employed not only for communications units but also for the interface, etc., of an office automation unit and peripheral units.

Such connectors are each employed to receive those modular jacks in a single cable and, in order to correspond to the number of cables to be connected to the printed circuit board, a plurality of connectors are mounted on that printed circuit board.

This type of connector is usually of a compact type and a time consuming operation is required in mounting a larger number of such connectors on the printed circuit board. Readier mounting of the connectors is, therefore, required.

Summary of the Invention

It is accordingly the object of the present

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invention to provide a jack connector device which satisfies the aforementioned requirement and ensures its readier mounting on the printed circuit board.

According to the present invention, there is provided a jack connector device for connecting a plurality of jack connectors to a printed circuit board, the jack connector device comprising:

an elongated, insulating housing having socket sections set, in a single array, along a length of the housing and holding jack connectors adapted to receive given plug terminals; and

contact terminals provided in the respective socket sections to connect the plug terminals to the printed circuit board.

According to the above connector structure, a respective recess in the housing which receives the contact terminals corresponds to one modular jack connector. A single housing mounted on the printed circuit board serves as being equivalent to a plurality of modulator jack connectors.

Brief Description of the Drawings

Fig. 1 is a front view showing a jack connector device according to an embodiment of the present invention;

Fig. 2 is a top view showing the jack connector device of Fig. 1 as viewed in a direction in which modular jacks are received; and



Fig. 3 is a side view showing the jack connector device of Fig. 1.

Detailed Description of the Preferred Embodiment

Figs. 1 to 3 show a jack connector device according to an embodiment of the present invention. The jack connector device 12 has an elongated housing or holder 14 which is molded. A plurality of (three in Figures) socket sections 16 are provided in a single array in the housing such that they extend along a length of the housing. Contact terminals 18 are arranged below the respective socket sections such that their lower end portions extend, as solder tails 22, from the corresponding lower end surfaces of the respective socket sections 16. The solder tails 22 are inserted into corresponding through holes in an associated printed circuit board (PCB), not shown, and soldering is effected there by, for example, an infrared soldering reflow step to electrically connect the contact terminals 18 to a circuit pattern on the PCB.

A known modular jack, not shown, is inserted into an opening 16b in a top end 16a of the respective socket section 16 and hence fixedly fitted in the socket section 16.

The modular jack, upon being inserted into the socket section, is brought into contact with the contact terminals so that the jack can be electrically connected by the contact terminals 18 to the circuit pattern on



the PCB. The respective socket section 16 correspond to one modular jack connector.

Mount legs 24 extend from the lower surface 20 of the socket section 16. The mount legs 24 are inserted
5 into associated mount holes in the PCB and fixed there, whereby the jack connector device 12 is mounted on the PCB. A housing material, if being properly selected, can not only protect the housing 14 from high temperature due to the soldering of the solder tails 22 by, for
10 example, the infrared soldering reflow step but also maintain a hermetic sealing property. For example, a metal such as aluminum as well as a thermoplastic resin such as hot nylon and polyphenylene sulfide (PPS) is preferable, as the housing material, depending upon the
15 use to which the material is put.

According to the jack connector device 12, the housing 14 can be mounted on the PCB by a single step only, thus performing the same function as mounting a plurality of modular jack connectors on the PCB.

20 Thus a mounting step preceding a soldering step can be further simplified than the method for mounting respective independent modular jack connectors on the PCB either manually or by a robot.

The housing 14 can be easily molded at a low cost
25 and hence the jack connector device 12 can be manufactured at a low cost.

The number of modular jacks mountable on the jack



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connector device 12 is shown as being three but not restricted thereto. By setting any proper number of socket sections 16 in the housing 14, it is possible to readily cope with a different number of modular jacks.

5 A combination of socket sections 16, that is, modular jack connectors, in the jack connector device 12 can also have any combination of differently wired connectors, for example, 4, 6 or 8 wire connectors.

10 According to the jack connector device of the present invention, since a plurality of jack connectors can be mounted in a single housing at a time, the mounting step can more readily be carried out for a brief period of time than when a plurality of modular jack connectors are mounted on a PCB.

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What is claimed is:

1. A jack connector device for connecting a plurality of jack connectors to a printed circuit board, comprising:

5 an elongated, insulating housing having socket sections set, in a single array, along a length of the housing and holding jack connectors adapted to receive given plug terminals; and

10 contact terminals provided in the respective socket sections to connect the plug terminals to the printed circuit board.

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