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(52) Domestic classification  
**H2E CHX**

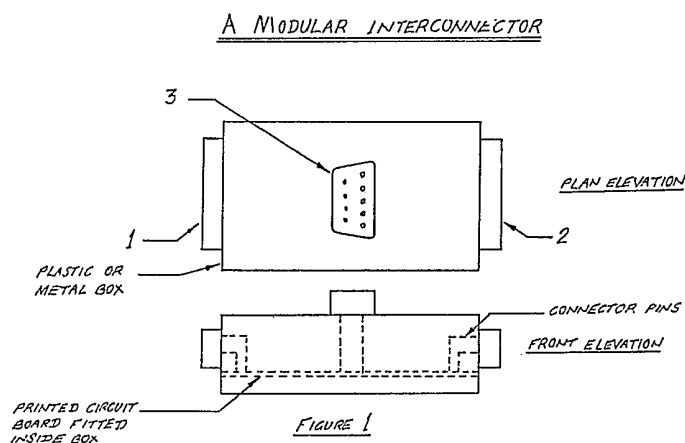
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(58) Field of search  
**H2E**

## (54) A modular interconnector

(57) A Modular Interconnector incorporates connectors (1, 2, 3) which allow it to be mounted in-line between a similar type of plug and its socket, and which enable electrical access to the pins of the plug and socket, between which the Modular Interconnector has been inserted. The connectors are interconnected by a p.c.b. Other connector configurations are disclosed.



# A MODULAR INTERCONNECTOR

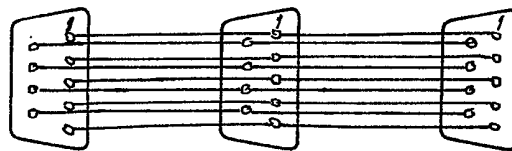
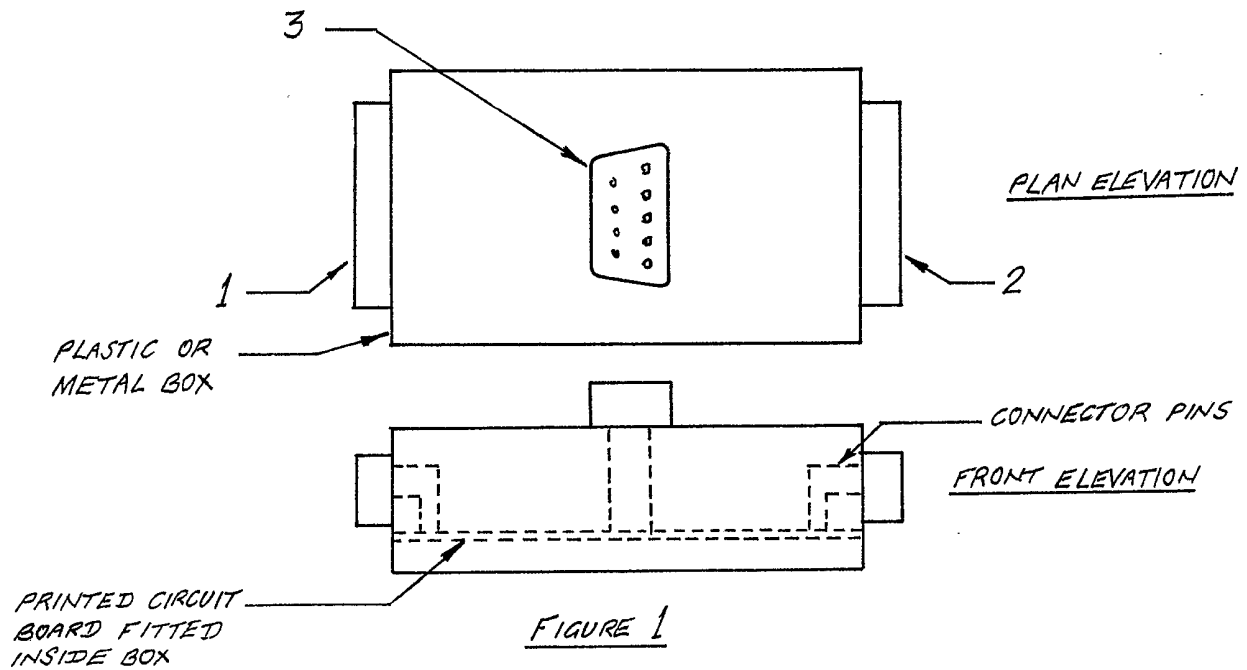


FIGURE 2

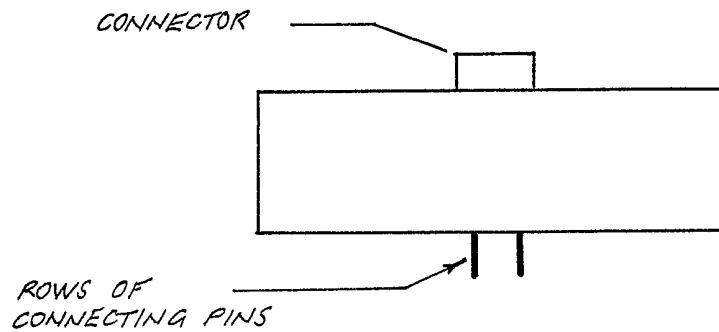


FIGURE 3

## SPECIFICATION

### A modular interconnector

5 This invention relates to a device to enable electrical or electronic wiring incorporating a connector to be accessed for test purposes or for the connection of other electrical or electronic equipment of any type. The invention is simple and inexpensive to manufacture and convenient to use.

10 According to the invention, an electrical interconnection module for connection between a plug P and socket S, comprises a connector for connection to plug P, a connector for connection to socket S, and a connector which provides for the electrical connection of test or other electrical or electronic equipment, and which is not necessarily of the same type as the connectors which attach to plug P and socket S.

20 By using printed circuit mounting connectors, it is possible for the device to be simple and inexpensive to manufacture and to be of small size conducive to convenient use as a means of connecting to electrical or electronic wiring.

25 The invention will now be described by way of example only and with reference to the accompanying drawings in which:-

*Figure 1* is a diagram of an embodiment of the invention and

30 *Figure 2* is a circuit diagram of the invention and *Figure 3* is a modified version of the invention.

The device comprises a plastic or metal box, possibly earthed, a connector 1, a connector 2, a connector 3, and a printed circuit board which connects the connectors 1, 2 and 3 together electrically in a point to point fashion, for example on connectors of the same type having numbered pins all pins numbered 1 are connected together as are all pins numbered 2, up to the full number of pins on the connectors. The device may be modified to incorporate more or less than the three connectors described above and individual modules containing compatible connectors may be connected together, for example the arrangement shown in *Figure 3* might be connected to that shown in *Figure 1* so that the connection pins may be connected to other electrical or electronic equipment. The device may be further modified by reconfiguring the orientations of the connectors and printed circuit board within the box as well as increasing the number or decreasing the number of connections in order to provide any number of connections or combinations of connectors.

## 55 CLAIMS

1. An electrical device to enable electrical or electronic wiring incorporating an electrical connector to be accessed for electrical testing purposes or for the connection of other electrical or electronic equipment and allowing normal operation of the said electrical or electronic wiring to be maintained and comprising a box or other method of containing the device, a connector 1, a connector 2, a connector 3 and a printed circuit board which connects the said

connectors 1, 2 and 3 together electrically in a point to point fashion, for example on connectors of the same type and having numbered pins, all pins numbered 1 are connected together, as are all pins numbered 2, up to the full number of pins on each connectors, the device may be modified to incorporate more or less than the three connectors described above and individual devices containing compatible connectors may be connected together to increase versatility, the orientations of the connectors which comprise the said device may be configured in any suitable way and connectors of different types and or number of pins may be contained in a single device.

2. A device according to Claim 1 in which a connector is electrically connected to a printed circuit board.

3. A device according to Claims 1 and 2 in which a second connector is electrically connected to a printed circuit board.

4. A device according to Claims 1 to 3 in which a third connector is electrically connected to a printed circuit board.

5. A device according to Claims 1 to 4 in which the connectors may be but are not necessarily of the same type, make, pin configuration, number of pins or size.

6. A device according to Claims 1 to 5 in which the number of connectors comprising the device may be less than or greater than the three described in Claims 1 to 5.

7. A device according to Claims 1 to 6 in which the connectors may be configured to allow external connectors of like gender, for example male to male, to be electrically connected together.

8. A device according to Claims 1 to 7 in which the connectors are configured to offer a gender change thereby allowing an incoming male connector to be converted to female, or visa versa.

9. A device according to Claims 1 to 8 wherein the connectors may be directly soldered into a printed circuit board or where the printed circuit board may be soldered directly to the connectors.

10. A device according to Claims 1 to 9 in which the pins of the individual connectors are interconnected by the printed circuit conductors.

11. A device according to Claims 1 to 10 which when installed between two compatible mateable connectors allows electrical connection to the said compatible mateable connectors' pins via a third connector, which need not be compatible, contained in the device.