

(21) Application No 9809088.9

(22) Date of Filing 28.04.1998

(71) Applicant(s)  
Gorden Su  
B Building, 6F No 8-2 Alley 5 Lane 221,  
Chian Hsin Street, Taipei, Taiwan

(72) Inventor(s)  
Peter Wu

(74) Agent and/or Address for Service  
Langner Parry  
High Holborn House, 52-54 High Holborn, LONDON,  
WC1V 6RR, United Kingdom

(51) INT CL<sup>6</sup>  
H01R 31/06 13/74

(52) UK CL (Edition Q )  
H2E ECSB ECSX EDCN E224

(56) Documents Cited  
GB 1511027 A

(58) Field of Search  
UK CL (Edition Q ) H2E ECSB ECSD ECSX  
INT CL<sup>6</sup> H01R

(54) Abstract Title  
**Data transmission adaptor**

(57) A data transmission adaptor includes a bottom cover shell 1, a top cover shell covered on the bottom cover shell 4, an optional circuit board 2 mounted in the bottom cover shell, and two electric data transmission connectors 3 mounted back-to-back on the circuit board, the top cover shell having a transverse partition (41, fig.4, not shown) inserted in a gap between the electric data transmission connectors to separate the electric data transmission connectors from each other. The adaptor also may have openings 421 at front and rear side walls thereof in alignment with the receiving sides of the electric data transmission connectors for insertion of external electric connectors, a top locating block 43 and two side ribs 441 for positioning in a locating hole on a face panel or distributing frame, the bottom cover shell having a bottom hook (11) and two side ribs 13 for positioning.

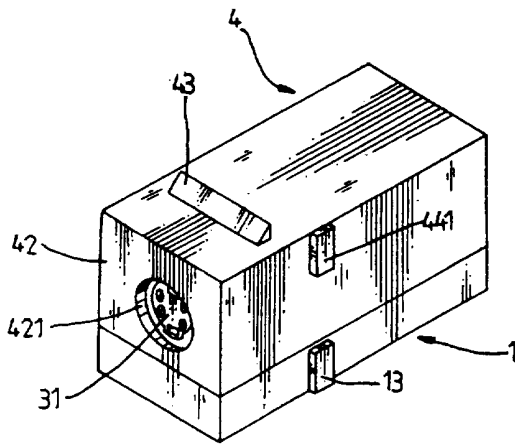


Fig.1

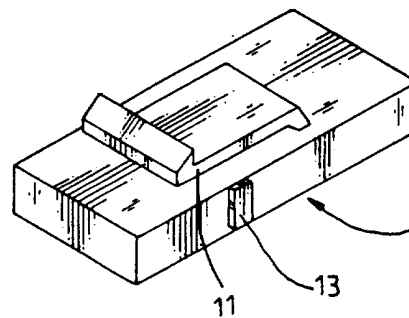


Fig. 3

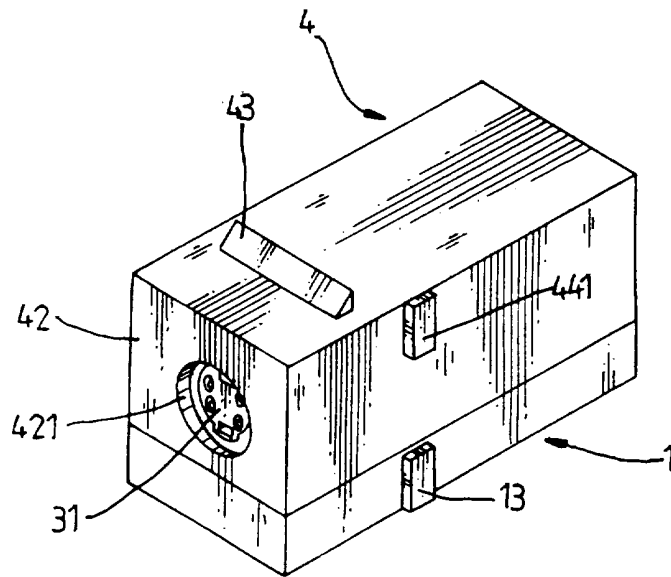


Fig. 1

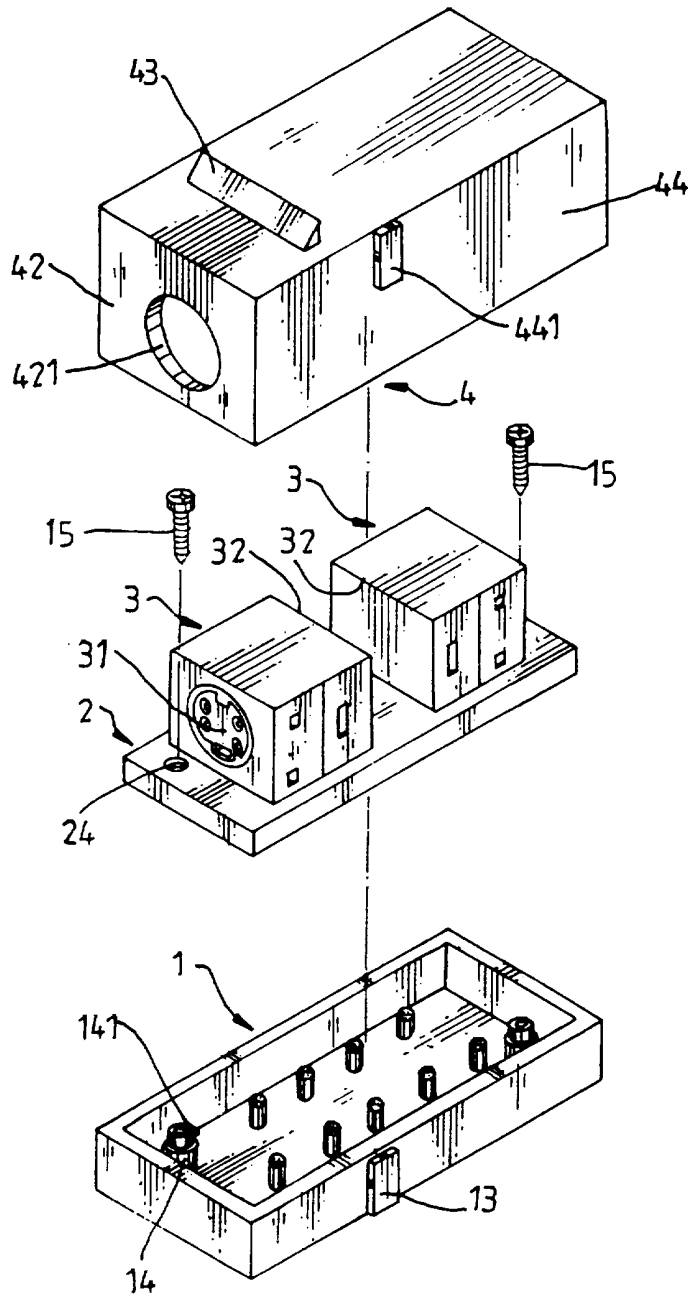


Fig. 2

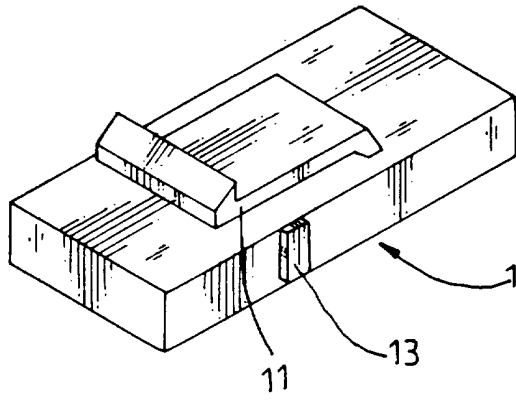


Fig. 3

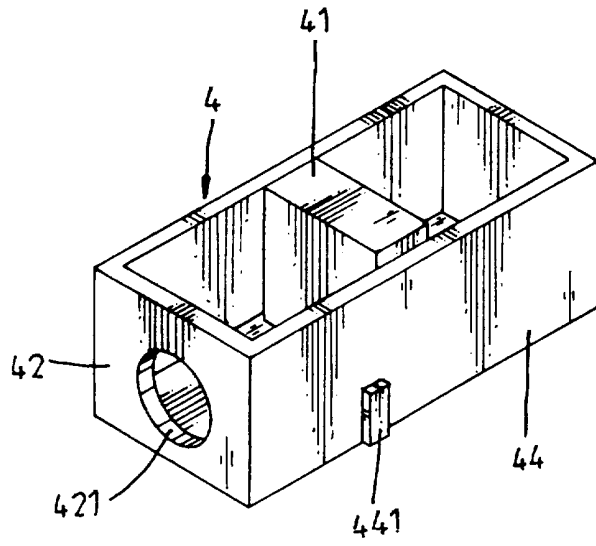


Fig. 4

DATA TRANSMISSION ADAPTER

This invention relates to a data transmission adapter.

The present invention relates to a data  
5 transmission adapter, and more particularly to such a  
data transmission adapter which comprises a top cover  
shell, a bottom cover shell, a circuit board mounted  
inside the bottom cover shell, and two electric data  
transmission connectors reversely mounted on the  
10 circuit board and respectively supported on a partition  
wall of the top cover shell at opposite sides.

Conventionally, an electric data transmission  
connector is fixedly mounted on a circuit board for  
15 connection to an electric apparatus. When connecting  
the electric data transmission connector of a circuit  
board in one apparatus for example a camera to the  
electric data transmission connector of a circuit board  
in another apparatus for example a television, a cable  
20 must be used and connected between the electric data  
transmission connectors for data transmission. When  
connecting the electrical connector of the circuit  
board in the camera or television, the electric data  
transmission connector of the circuit board may be  
25 forced by insertion force to vibrate, causing the  
circuit to be broken.

According to one aspect of the present invention,  
the data transmission adapter comprises a top cover  
30 shell, a bottom cover shell, a circuit board mounted  
inside the bottom cover shell, and two electric data  
transmission connectors reversely mounted on the  
circuit board and respectively supported on a partition  
wall of the top cover shell at opposite sides.  
35 According to another aspect of the present invention,  
the top cover shell has a top locating block and two

side ribs, and the bottom cover shell has a bottom hook and two side ribs. By means of the locating block, the side ribs and the hook, the data transmission adapter can be firmly installed in the mounting hole on the face panel or distributing frame. According to still another aspect of the present invention, the electric data transmission connectors can be female connectors or male connectors, or one female connector with one male connector. Because two electric data transmission adapters are reversely mounted on the circuit board, changing the positions of data signal lines is easy.

An embodiment of the present invention will now be described by way of example with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a data transmission adapter according to the present invention;

Figure 2 is an exploded view of the data transmission adapter shown in Figure 1;

Figure 3 is a perspective back side view of the bottom cover shell according to the present invention; and

Figure 4 is a perspective back side view of the top cover shell according to the present invention;

Referring to the various drawings attached herewith, a detailed description of the structural features of a data transmission adapter of the present invention is as follows:-

Referring to Figures from 1 to 4, a data transmission adapter in accordance with the present invention is generally comprised of a bottom cover

shell 1, a circuit board 2, two electric data transmission connectors 3, and a top cover shell 4.

5 Referring to Figures 2 and 3 again, the bottom cover shell 1 comprises a positioning hook 11 integral with the bottom side wall thereof on the outside (see Figure 3), two locating ribs 13 respectively raised from two opposite upright lateral side walls thereof on the outside, and a plurality of internally threaded  
10 upright locating tubes 14 raised from the inside. Each upright locating tube 14 has an upwardly extended coupling portion 141 of reduced diameter.

15 Referring to Figure 2 again, the circuit board 2 is mounted within the bottom cover shell 1, having a plurality of mounting holes 24 into which the upwardly extended coupling portions 141 of the internally threaded upright locating tubes 14 are fitted and then secured in place by a respective screw 15.

20 Referring to Figure 2 again, the electric data transmission connectors 3 are mounted on the circuit board 2 in reversed directions. Each electric data transmission connector 3 comprises a receiving side 31  
25 at one side namely the front side, and a back side 32 opposite to the front side. The receiving side 31 can be a socket, or a plug. When the electric data transmission connectors 3 are installed in the circuit board 2, the back sides 32 of the electric data  
30 transmission connectors 3 face each other and spaced from each by a gap.

35 Referring to Figures 2 and 4 again, the top cover shell 4 comprises a transverse partition board 41 vertically disposed on the middle, two openings 421 respectively provided at vertical front and rear side walls 42 thereof corresponding to the receiving sides 31 of the electric data transmission connector 3, a



transversely extended locating block 43 integral with the top side wall thereof on the outside, and two locating ribs 441 respectively raised from two opposite upright lateral side walls 44 thereof on the outside.

5

Referring to Figures 1 and 2 again, after the electric data transmission connectors 3 have been installed in the circuit board 2 and the circuit board 2 have been fixedly fastened to the bottom cover shell 1 on the inside, the top cover shell 4 is covered on the bottom cover shell 1 and sealed by a ultrasonic sealing apparatus to protect the circuit board 2 and the electric data transmission connectors 3, and to separate the electric data transmission connectors 3 from each other by the partition board 41. The partition board 41 serves as support means to support the electric data transmission connectors 3 against the insertion force of a cable. When the data transmission adapter is assembled, the receiving sides 31 of the electric data transmission connectors 3 are respectively retained to the openings 421 on the vertical front and rear side walls 42 of the top cover shell 4 for connection of an external electric connector. By means of the positioning hook 11 and the locking block 43, the data transmission adapter can be conveniently and firmly mounted in a locating hole on a face panel or distributing frame.

Furthermore, during the assembly process of the data transmission adapter, two male electric data transmission connectors, two female electric data transmission connectors, or one male electric data transmission connector and one female electric data transmission connector can be installed in the circuit board 2 to meet different requirements.

CLAIMS

1. A data transmission adapter comprising a housing within which are located two internal connectors fixedly located back to back for mating with external connectors to be electrically connected, electrical connecting means electrically interconnecting the two internal connectors, and a partition physically separating the internal connectors, said partition being adapted to resist insertion forces on said internal connectors during mating of said internal connectors with said external connectors; and securing means for securing the housing in a panel or distribution frame.

2. A data transmission adapter comprising:

a bottom cover shell, said bottom cover shell comprising a hook integral with a bottom side wall thereof on the outside for mounting, and two locating ribs respectively raised from two opposite upright lateral side walls thereof on the outside for positioning;

a circuit board fixedly mounted inside said bottom cover shell;

two electric data transmission connectors mounted on said circuit board in reversed directions and spaced from each other by a gap, said electric data transmission connectors each having a receiving side disposed in direction reversed to each other; and

a top cover shell covered on said bottom cover shell over said circuit board and said electric data transmission connectors, said top cover shell comprising a transverse partition board vertically disposed on the middle and inserted into the gap between said electric data transmission connector, two openings respectively provided at vertical front and

rear side walls thereof and aligned with the receiving sides of said electric data transmission connectors respectively, a transversely extended locating block integral with a top side wall thereof on the outside for mounting, and two locating ribs respectively raised front two opposite upright lateral side walls thereof on the outside for positioning.

3. A electrical coupler substantially as described herein with reference to and as illustrated in Figures 1 to 4 of the accompanying drawings.



Application No: GB 9809088.9  
Claims searched: 1 to 3

Examiner: Mr F J Fee  
Date of search: 17 August 1999

**Patents Act 1977  
Search Report under Section 17**

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:  
UK Cl (Ed.Q): H2E [ECSB, ECSD, ECSX]  
Int Cl (Ed.6): H01R  
Other:

**Documents considered to be relevant:**

Category	Identity of document and relevant passage	Relevant to claims
X	GB 1511027 [AMP] data connector with strain relief partition 39, figure 1	1, 2

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.