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CONNECTOR FOR TAPPING ELECTRICAL POWER FROM PERIPHERAL DEVICES ✓

ABSTRACT

The connector (51) as shown in Fig. 5 will henceforth be named a **Jeck** connector or **Jeck** for short. The Jeck comprises a male (51m) and female (51f) interface, a central connecting section (51c) and a cable grip (51g). A complete Jeck cable consists of a Jeck connector, a cable (53) terminated with any socket (54). The Jeck acts as a power tap which can be plugged between an equipment (such as a personal computer), and an existing device (such as a monitor) as shown in Fig. 3. The cable (31) connecting the Jeck and the terminal socket delivers the power from the Jeck to the socket. This terminal socket will then supply power to a third device (34), such as a printer. Another variation of usage is as shown in Fig. 4. Both usage eliminate the need for a power plug whose design can vary from country to country.

FIELD OF THE INVENTION

This invention relates to a specially designed electrical power connector known as a **Jeck** for tapping electrical power supply from peripheral devices or from a personal computer and delivering the power to another device via a cable terminated with a socket. }

BACKGROUND OF THE INVENTION

Electrical or electronic devices/equipment generally draw their power from a 110V or 230V supply via an electrical socket, generally mounted on the wall. Unfortunately, these electrical sockets come in different and incompatible designs which vary from country to country. For example, the power cords used in the USA, which are provided together with the devices, will not fit into the Singapore electrical socket. The non-compatible USA power plug has to be changed to our own 3-pin plug. Alternatively, one could purchase an adaptor to fit the non-compatible power plug. Similarly, the 3-pin plugs use in Singapore will not be compatible with the electrical sockets use in the USA.

Such incompatibilities result in additional costs and inconveniences for the users. It is also troublesome for the manufacturer to pack their equipment with different plugs for the power cords when shipping to different countries. Fig. 1 shows some of the power plugs used in different countries. Furthermore, a second electrical socket must be available to supply power to the second device. Fig. 2 shows the current situation when connecting the power supply to a second device.

This invention does away with the need for a power plug and hence eliminated concerns about the incompatibilities of electrical power sockets of different countries as well as a need for a second electrical socket.

This invention taps the electrical power from a personal computer or another device as shown in Fig. 3 and Fig. 4 respectively. It eliminates the need to ship peripheral devices with a power plug.

OBJECT OF THE INVENTION

The primary objective of the invention is to provide an electrical connector (known as a **Jeck** connector) and power cord to tap into the power supply from another device/equipment.

It is another object of the invention to eliminate the need for a power plug and the need for a second electrical power socket.

Other objects, features and advantages of the present invention will become apparent from the detailed description which follows.

SUMMARY OF THE INVENTION

This invention (Fig. 5) primarily consists of a main connector (51), cable (53) and a terminal socket (54). The main connector, herein called the **Jeck** connector or **Jeck** for short, comprises of both a male (51m) and a female (51f) interface at opposite ends. The cable can withstand 230 Volts and 13 Amperes of electrical power. The terminal socket is compatible with the connecting device.

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In detail now, Fig. 3 shows an embodiment of the invention. As shown in (32) and (32a), the male interface (51m of Fig. 5) may be plugged to the female power outlet of the PC. The monitor may then draw its power from the female interface (52f of Fig. 5). The tapped electrical power that comes out from the terminal socket of (31) is then supplied to the device (34).

Another embodiment of the invention is that the electrical power is delivered at both the female interface and terminal socket which is safe from accidental electric shock because our bare fingers will not be able to touch any metallic contact of the invention.

Yet another embodiment comes from the flexibility of usage as shown in Fig 4 where by the device has only one male interface. The power supply to the device is connected to the male interface of the invention (51m or 52m of Fig. 5). The output power at the female interface (51f or 52f of Fig. 5) is fed to the device (44) and that from the terminal socket (54 of Fig. 5) will be used to power the device (45).

The invention is the embodiment of convenience, ease of usage and cost savings. It is convenient because the power is easily available from the PC or other peripheral devices. One does not have to search for another power socket which may not be available. It is safe from electrical shocks in any way it is connected which is easily learnt. It saves cost by avoiding having to install another wall socket or purchasing an adaptor or power extension cord. The manufacturer does not have to provide a long power cord as practised in the past. Using a short Jeck cable will suffice since peripheral devices are normally placed very close to a PC or other devices. The Jeck is also independent of the differing power plugs in used in different countries.

In another embodiment of Fig. 5, the cable (53) may extend out from the right or left of the main connector (51) or from any part of the connecting section (51c).

An additional embodiment is the flexibility to allow different terminal sockets as illustrated in (54) of Fig. 5.

Other embodiments include the ability to manufacture the invention with moulded plastic or into individual parts which can be manually assembled. Moulded cables can be mass produced at low cost. Manually assembled parts has the flexibility to allow users to connect their own cables and terminal sockets.

While only a few embodiments of the present invention have been described and illustrated, it is to be understood that many changes, modifications and variations could be made to the present invention without departing from the scope or spirit of the invention as set forth in the appended claims.

CLAIMS

1. A Jeck connector comprising of a central section and both a male and female interface for connection to a personal computer or a peripheral device. The male interface receives the power and the female interface will make this power available to another device.
2. The Jeck connector of claim 1, wherein a cable will be attached to the central section on one end and a terminal socket on the other end. This cable will deliver the power from the main connector to the terminal socket. The latter is to be connected to a peripheral device and thereby supplying power to that device.
3. The invention of claim 1 and 2, wherein the terminal socket can be any electrical socket or even without one.
4. The invention of claim 1, 2 and 3, wherein the whole product may be moulded into one piece. It may however, be moulded without a terminal socket to allow users attaching a socket of their own.
5. The Jeck connector of claim 1, wherein the parts may be assembled together with cable grips and a central section to allow users the flexibility to attach their own cable. These parts may be fastened with screws, bolts and nuts, glue, tight-fitting joints or any other means.

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The invention is the embodiment of convenience, ease of usage and cost savings. It is convenient because the power is easily available from the PC or other peripheral devices. One does not have to search for another power socket which may not be available. It is safe from electrical shocks in any way it is connected which is easily learnt. It saves cost by avoiding having to install another wall socket or purchasing an adaptor or power extension cord. The manufacturer does not have to provide a long power cord as practised in the past. Using a short Jeck cable will suffice since peripheral devices are normally placed very close to a PC or other devices. The Jeck is also independent of the differing power plugs in used in different countries.

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Other embodiments include the ability to manufacture the invention with moulded plastic or into individual parts which can be manually assembled. Moulded cables can be mass produced at low cost. Manually assembled parts has the flexibility to allow users to connect their own cables and terminal sockets.

While only a few embodiments of the present invention have been described and illustrated, it is to be understood that many changes, modifications and variations could be made to the present invention without departing from the scope or spirit of the invention as set forth in the appended claims.

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3. The invention of claim 1 and 2, wherein the terminal socket can be any electrical socket or even without one.
4. The invention of claim 1, 2 and 3, wherein the whole product may be moulded into one piece. It may however, be moulded without a terminal socket to allow users attaching a socket of their own.
5. The Jeck connector of claim 1, wherein the parts may be assembled together with cable grips and a central section to allow users the flexibility to attach their own cable. These parts may be fastened with screws, bolts and nuts, glue, tight-fitting joints or any other means.



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The Jeck connector may be plastic moulded or assembled manually. Moulded Jecks will come together with a cable with an optional terminal socket. Assembled Jeck parts allow the flexibility to change to another cable of choice.

When tapping power from a personal computer, either the male or female interface may be plugged to the computer. This is because most computers have both a male and a female interface. However, in cases when tapping power at a peripheral device, such as a printer, only the female interface may be connected to that device because the latter has only a compatible male interface.

The cable (53) is connected to the Jeck at the centre (51c) and held in place by cable grips (51g). The cable may be attached to the main connector at the left, right, top, bottom or at any suitable position. The wiring within the main connector, the cable and the terminal socket must conform to the standard electrical specifications for Live, Neutral and Earth wires. This is for safety reasons and to prevent a short circuit should the terminal socket be accidentally plugged into the male interface of the Jeck.

The terminal socket may appear in different designs appropriate for the devices produced by the device manufacturers. The socket (54a) of Fig. 5 is a commonly used socket for computer peripherals. The invention may be supplied with any other sockets as well as without one so as to provide the users the flexibility to attach their own sockets.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings which are incorporated into and constitute a part of the description of the invention, illustrate embodiments of the invention and serve to explain the principles of the invention. It is to be understood, however, that the drawings are designed for purposes of illustration only, and not as a definition of the limits of the invention for which reference should be made to the claims appearing at the end of the description.

Fig. 1 shows some of the power plugs in use in different countries. This is to illustrate the incompatibilities faced.

Fig. 2 shows the current situation when connecting the power supply to a second device. Each additional device requires a plug. Note that for clarity purposes, all other non-related cablings are omitted from the drawings.

Fig. 3 shows a typical usage of the Jeck cable where by the power for the device (34) is tapped from a personal computer (33) using the invention (31). For clarity, (32a) shows the connectors before they are fully plugged in. When fully plugged in, it is illustrated as in the circled (32). Note that for clarity purposes, all other non-related cablings are omitted from the drawings.

Fig. 4 shows additional flexibility in using the Jeck cable (41), (46) to tap the power from another peripheral device (44). The device (45) draws its power from (44) via the Jeck cable (46). For clarity, (42a) shows the connectors before they are fully plugged in. When fully plugged in, it is illustrated as in the circled (42). Note that for clarity purposes, all other non-related cablings are omitted from the drawings.

Fig. 5 shows the 3 main sections of the invention - the Jeck connector (51), the cable (53) and the terminal socket (54). Collectively, known as a Jeck cable. The Jeck comprises of both a male (51m) and a female (51f) interface at opposite ends, a connecting section (51c) in between and with a cable grip (51g) to hold the cable in place. When the Jeck (51) with the male end shown is rotated 180 degrees horizontally to shown the other female end of the Jeck (52). The male (51m) and female (51f) interfaces and the connecting section (51c) corresponds to (52m), (52f) and (52c) respectively. The terminal sockets (54) may be of any design appropriate for the devices concerned. Some examples are as shown in (54a) and (54b).

Fig. 6 is the top sectional view of the invention to illustrate the electrical connectivity namely the Live, Neutral and Earth wires for the male (61m), female (61f) and terminal socket (64). The terminal socket (64) is connected to the main connector at (61c) via the cable (63).

DESCRIPTION OF THE EMBODIMENTS OF THE INVENTION

