

Modular power strip which may be plugged into more than one power socket and which may have a detachable power cord

Description

1. This description pertains to a power strip or surge protector which may be plugged into more than one power socket, or which has a detachable power cord which is plugged into a power cord socket on the invention, into which another power strip or surge protector could be allowed to be plugged into ("modular feature"), or a combination of the two aforementioned features. When operating in the OR mode hereinafter described, this invention solves the problem of transferring always-on devices from one mains socket to another. This is useful when, for instance, furniture is rearranged in a server room. Also, the optional detachable power cord and modular feature increase portability.
2. In this description,
 - 2.1. "power strip" includes any device into which another electrical device, which may be plugged into an ordinary power socket, may be plugged into, and which is capable of supplying electrical power to such device plugged into it;
 - 2.2. "surge protector" is any power strip with surge protection;
 - 2.3. "detachable power cord socket" means a socket other than an ordinary power socket into which a power cord may be plugged into;
 - 2.4. "power input" means a power socket that the invention is plugged into;
 - 2.5. "particular number" includes a defined range of numbers;
 - 2.6. "the invention" means the invention covered under this patent.
3. The following features are unique to this invention:
 - 3.1. The invention may optionally be plugged into more than one power socket. Power would be supplied from those sockets to the devices plugged into the invention. The invention, when plugged into more than one power socket, could operate in one of three modes:
 - 3.1.1. In the OR mode, the devices plugged into the invention would be switched on if any number of power inputs is switched on.
 - 3.1.2. In the AND mode, the devices plugged into the invention would be switched on if all of the power inputs switched on.
 - 3.1.3. In the XOR mode, the devices plugged into the invention would be switched on if a particular number of power inputs are switched on.
 - 3.1.4. The above modes would be implemented by way of a parallel circuit to supply the power, which may be combined with logic gates, capacitors, or other electronic components to achieve the desired effect of the mode, and possibly to regulate the power supplied.
 - 3.2. The invention may optionally have a mechanism that allows the user to select the desired mode, or may be built to operate in only one mode.
 - 3.3. The invention may optionally have a power cord that is detachable, that is, the power cord is not fixed but is plugged into a power cord socket, or the power cord may be fixed.
 - 3.4. The invention may optionally be capable of being plugged into another invention of similar make through the power cord socket, and when this is so, power shall be supplied by the device which is plugged into the other device. This allows for a power strip to be "modularly" built by combining multiple instances of this invention.
4. A model of the invention may incorporate any combination of one or more of the aforementioned unique features. Any such model should be deemed to be covered under this patent.
5. Different models of the invention may have different voltage or current ratings, and may have different power sockets or plugs meant to be used in different countries, and may or may not have fuses and other optional features common to power strips and surge protectors. All such models shall be covered under this patent.
6. Models of the invention may be made with additional features not described here such as, inter alia, extendible power cords, and such models shall not be considered different from the invention.
7. A labelled diagram of such a machine is attached to this document. The appearance of the invention as well as the placement of components is not of the essence; any product which incorporates the features herein described shall be considered to be covered under this patent.

AMENDED CLAIMS**received by the International Bureau on 15 august 2011 (15.08.11)**

1. A power strip or surge protector which may be plugged into two or more power sockets and will be switched on if any number of the sockets it is plugged into is switched on, and is capable of combining the electric power from the two power sources attached to it and regulating the voltage and current flow from the inputs to the output, using diodes or any other means of ensuring that electric current in a conductor flows in only one direction to combine power inputs and power outputs while avoiding a short circuit and capacitors or any other means of smoothing non-constant applied voltages or current flows, such that the power output to the power load remains constant and the power load experiences no anomalous voltage or current spike or dip when any particular power input is switched on or off, and the power load draws power from all of the power inputs in equal proportions.
2. A power strip or surge protector which may be plugged into two or more power sockets and will be switched on if all of the sockets it is plugged into is switched on, and is capable of combining the electric power from the two power sources attached to it such that the power load can receive combined electrical power from two sources, and that the power output to the power load remains smooth even when a brownout or voltage spike occurs for one of the power inputs and the power load draws power from all of the power inputs in equal proportions.
3. A power strip or surge protector which may be plugged into two or more power sockets and will be switched on if only a certain number of sockets, greater than or equal to one but less than the total number of the sockets, or a particular range of numbers of sockets, which it is plugged into is switched on.
4. A power strip or surge protector which may be plugged into two or more power sockets and will be switched on if any number of the sockets it is plugged into is switched on (OR mode), or if both of the sockets it is plugged into is switched on (AND mode), or if only a particular number of sockets, greater than or equal to one but less than the total number of the sockets, or a particular range of numbers of sockets, which it is plugged into is switched on (XOR mode), depending on which mode it is operating in, implemented using relays or triacs or any other components capable of switching alternating current (methods of implementing logic gates with such components are well documented), and has a mechanism by which such mode may be changed.
5. A power strip or surge protector, which may have a feature that allows it to be plugged into two or more power sockets and will be switched on if any number of the sockets it is plugged into is switched on (OR mode), both of the sockets it is plugged into is switched on (AND mode), only a particular number of sockets, greater than or equal to one but less than the total number of the sockets, or a particular range of numbers of sockets, which it is plugged into is switched on (XOR mode), implemented using relays or triacs or any other components capable of switching alternating current (methods of implementing logic gates with such components are well documented), which may allow only one of these modes of operation, or more than one of these modes of operation and has a mechanism by which such mode may be changed, and which may have one or more sockets for a detachable power cord, and which may allow another power strip or surge protector to be plugged into the detachable power cord socket.
6. A power strip or surge protector, which may have a feature that allows it to be plugged into two or more power sockets and will be switched on if any number of the sockets it is plugged into is switched on (OR mode), both of the sockets it is plugged into is switched on (AND mode), only a particular number of sockets, greater than or equal to one but less than the total number of the sockets, or a particular range of numbers of sockets, which it is plugged into is switched on (XOR mode), implemented using relays or triacs or any other components capable of switching alternating current (methods of implementing logic gates with such components are well documented), which may either allow only one of these modes of operation, or may allow more than one of these modes of operation and has a mechanism by which such mode may be changed, and which may have one or more sockets for a detachable power cord, and which may allow another power strip or surge protector to be plugged into the detachable power cord socket, and which is capable of combining the power from the inputs such that the power load draws power from all of the power inputs in equal proportions and the power load experiences no anomalous voltage spike or dip when any of the power inputs is switched on or off, using diodes or any other means of ensuring that electric current in a conductor flows in only one direction to combine power inputs and power outputs while avoiding a short circuit and capacitors or any other means of smoothing non-constant applied voltages or current flows.