

Title : AC/DC Adapter 110/230 volts, with multiple DC outputs.

Field : Computer & General Electronics (AC/DC adapters) Power Supply.

Background :

Generally most AC/DC adapters 110/230 volts have a variable DC output of 1.5v/4.5v/9v/12v combinations. Some even have an additional separate battery charger for 12 v or similar fixed DC voltage, for dual function. These AC/DC adapters have 30, 45, 60 even 110 watts power and are used for various electronic devices using the different DC voltages of 1.5v/4.5v/9v/12v. There is none with dual DC output of 5 volts and 12 volts and or more than two DC outputs.

The laptop computers have AC/DC adapters at DC output of 16v for power supply for simultaneous use by the computer laptop as well as charging the battery. However, Desktop Computers run directly from AC mains with power supply converted to DC output of 5v and 12v. There is no battery for the desktop computers except by the Uninterruptible Power Supply (UPS) system. The desktop computers do not have any portable AC/DC adapter with dual DC output of 5 v and 12 v. Their power supply is bulky and incorporated in the casing of the computer.

Description :

1. Variation 1 : A portable AC/DC adapter 110v/230v 50/60 MHz, 120 watts (using one or more transformers in the circuit/s) with dual regulated DC output of 5 v and 12 v and a separate battery charger, for simultaneous charging of the battery and power supply to the desktop computer. In event of electrical mains failure, the battery will provide the power supply to the desktop computer for a variable time depending on the ampere hours of the battery and type of battery used. For schematic drawings, see attached Annex A.
2. Variation 2 : As in the above but with different wattage from 30 watts to 230 watts or more.
3. Variation 3 : A portable DC/DC adapter for a power supply input of 12volts or more or less from vehicle/s and or airplane/s, with dual regulated DC output of 5 v and 12 v and a separate battery charger, for simultaneous charging of the battery and power supply to the portable desktop computer.
4. Variation 4 : As in any of the above but with variable DC output for 1.5v/4.5v/5v/9v/12v/16v or more and or any other DC voltage requirement for any combination of all three or more DC outputs with a switch control for each separate DC output.

Materials : Hard plastic polymer casing, PCB with components and wiring, DC outputjacks.

Drawings : See Attached Annex A.

Summary :

The proposed portable AC/DC adapter 110/230v, of variable wattage, is a new type of AC/DC adapter using 1 or more transformers complete with the circuits for three or more regulated DC outputs, a dual DC output of 5v and 12 v for the power requirements for the desktop computer components and a battery charger which function also as a battery holder and supply continuous regulated DC supply from the battery for variable period/s in the event of a mains power supply failure. The AC/DC adapter is specifically designed for desktop computers with requirement for dual DC output of 5v and 12v. The same concept and/or different variations is/are also applicable to power multiple electronic equipment/appliances simultaneously, each according to their DC voltage requirement and individual switch control. - all these from a single AC mains supply, instead of three or more AC power sockets, or from other power supply as found in vehicles and airplanes

Submitted by : Mr Chen Walter Roland

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Claims :

Patent is to provide protection for the following :

1. Patent rights to a new class of portable AC/DC adapters with three or more regulated DC outputs.
2. Patent rights to AC/DC adapter with a dual DC output specifically for 5 volts and 12 volts specially to power desktop computers but also applicable to power multiple electronic equipment simultaneously.
3. The design, manufacture, utilisation and sale of the above product/s, except by the owner of the patent and/or his agent/s.

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