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December 2019

NON-STANDARD AC INLETS

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Recommended Citation

INC, HP, "NON-STANDARD AC INLETS", Technical Disclosure Commons, (December 16, 2019)
https://www.tdcommons.org/dpubs_series/2777



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Non-Standard AC Inlets

Abstract: An electronic product uses a non-standard AC inlet connector to ensure that a particular power cord or adapter associated with that electronic product is used to power it.

This disclosure relates to the field of AC power connections for electronic devices.

A technique is disclosed that ensures that a particular type of AC power adapter, or power cord, is used to power a particular corresponding electronic product.

Many electronic products that operate using AC power have a detachable power cord or power adapter. The electronic product itself has an AC inlet, typically a male socket, which mates with a complementary AC plug, typically female, that is attached to one end of an AC power cord. The other end of the AC power cord or adapter has a plug that mates with a complementary socket of the source of AC power, such as for example a wall socket. In one example, the AC inlet may be a type C6 inlet, and the power cord/adapter a type C5 one.

There are a number of standard socket types that can be used in the electronic product. Since these socket types are standard, there also exist a number of different AC power cords or adapters that have a standard plug which mates with the standard socket. These AC cords may be available from a number of different third-party manufacturers.

An AC power cord or adapter is typically supplied with the electronic product. In some cases, the AC power cord/adapter supplied with the product may be specially designed for the product. For example, a power cord/adapter may have a particular type and quality of shielding, and be of a particular length, to reduce or minimize EMI emissions from the product. Or, a cylindrical ferrite bead may be installed around the power cord at a particular position, in some cases to again minimize emissions. Power adapters can have similar constraints or, for example, may have active circuitry therein to condition the AC input power in some manner.

According to the present disclosure, and as understood with reference to the Figures, an electronic product 10 is equipped with a non-standard AC inlet in order to ensure that a particular AC power cord/adapter 20 is used to power the electronic product. The AC power cord/adapter 20 has, on one end, a complementary non-standard AC plug 30 that mates with the non-standard AC inlet of the electronic product 10.

The non-standard AC inlet of the electronic product 10 is configured such that a standard AC plug 40 used on a power cord/adapter 25 cannot mate with it. As a result, standard third-party AC power cords/adapters 25 cannot be connected to the electronic product 10. This ensures that only an AC power cord/adapter 20 of the type supplied with, or specially designed for, the electronic product 10 can be used to power the electronic product 10.

This advantageously ensures that the electronic product operates at the highest quality.

Disclosed by Ching Yi Wang and Vince Lai, HP Inc.

