



**UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE PATENT TRIAL AND APPEALS BOARD**  
U.S. Patent No. 8,492,933

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**Apple Inc., Petitioner**  
**v.**  
**Comarco Wireless Technologies, Inc.,**  
**Patent Owner**  
**IPR2015-001879**

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Petitioner's Demonstrative Exhibits  
November 15, 2016 Oral Hearing

# The '933 Patent

1. Power supply equipment comprising:

[1.a.] an adapter to convert power from a power source, external to the electronic device, to DC power for powering an electronic device,

[1.b.] **the adapter including circuitry** for producing an analog data signal for use by the electronic device to control an amount of power drawn from the electronic device; and

[1.c.] a cable having proximal and distal ends, the proximal end being electrically coupled to the adapter and the distal end terminating in an output connector, **the output connector including:**

[1.d.] a plurality of conductors to transfer the DC power and the analog data signal to the electronic device; and

[1.e.] **circuitry** to receive a data request from the electronic device and in response transmit a data output to the electronic device to identify the power supply equipment to the electronic device

# Element 1.b. is Disclosed In Allen

## The '933 Patent

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  - [1.c.] a cable having proximal and distal ends, the proximal end being electrically coupled to the adapter and the distal end terminating in an output connector, **the output connector including:**
  - [1.d.] a plurality of conductors to transfer the DC power and the analog data signal to the electronic device; and
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## Allen

If the power detection circuit **74** detects in AC power, switch **75** is closed and the AC identification circuit **77** is activated, thereby transmitting a data signal on line **42** indicating the DC power carried on DC power lines **38** generated from an AC power source. If, however, the power detection circuit **74** detects in DC power, switch **76** is closed and the DC identification circuit **78** is activated, thereby transmitting a data signal on line **42** indicating that the DC power carried on DC power lines **38** originates from a DC power source. The data signal carried on line **42** is used by the power management component of the information handling system to implement power management functions. For example, if the data signal on line **42** indicates that the external power source is AC, the power management components may allow the battery to be fully charged and the various system components, such as the display, to operate at full power. If, on the other hand, the data signal on line **42** indicates that the external power is from a DC source, the power management components may limit the charge to the battery and also limit the power consumed by the various system components.

# Element 1.e.'s Circuitry is Disclosed In B

## The '933 Patent

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## Breen

In order to determine its power source and its performance, a controller **260** included in a portable HIS device **101** sends a request signal over one or more power peripherals over a bi-directional PSID line **250** to request PSID information from a power peripheral, which is queried, sends a response signal over the PSID line **250**. The response includes the requested PSID attribute information. For example, a response may include information such as 'DC **150**' or 'AC **100**'. The DC **150** indicate a DC type power source rated to output 150 watts, and the AC **100** may indicate an AC power source rated to operate at 100 watts.

# Element 1.e.'s Location is Disclosed In Castle

## The '933 Patent

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## Castleman

The physical arrangements for association of a memory chip with each powered device are subject to considerable variation. For new devices preferably the chip may be built into the device. For already-existing devices the chip may be built into a new power cable (preferably into one of the connectors at the two ends of the cable) for use with the device.

\* \* \*

In this port-r configuration, identification information is supplied from a memory **132r** housed in an end connector **138r**. This port-r three-wire configuration is conceptually related to the corresponding two-wire form, just discussed, in which the second occupied port j.

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