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Lanni

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(54) **POWER SUPPLY EQUIPMENT PROVIDING A DATA SIGNAL, IDENTIFICATION INFORMATION AND POWER TO AN ELECTRONIC DEVICE**

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Related U.S. Application Data

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G05F 3/06 (2006.01)

(52) **U.S. Cl.**
 USPC **307/151**

(58) **Field of Classification Search**
 USPC 307/150, 151
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,164,652 A 11/1992 Johnson et al.
 5,254,931 A 10/1993 Martensson
 5,333,177 A 7/1994 Braitberg et al.
 5,350,993 A 9/1994 Toya et al.
 5,369,352 A 11/1994 Toepfer et al.

(Continued)

FOREIGN PATENT DOCUMENTS

WO WO 98/19223 5/1998
 WO WO 2006/116298 A1 11/2006

OTHER PUBLICATIONS

“Universal Serial Bus Specification Revision 2.0” Compaq Computer Corporation, et al., Apr. 27, 2000, Cover page, Copyright notice page, Content pages v-xiii, Section 7.2 Power Distribution, pp. 171-178.

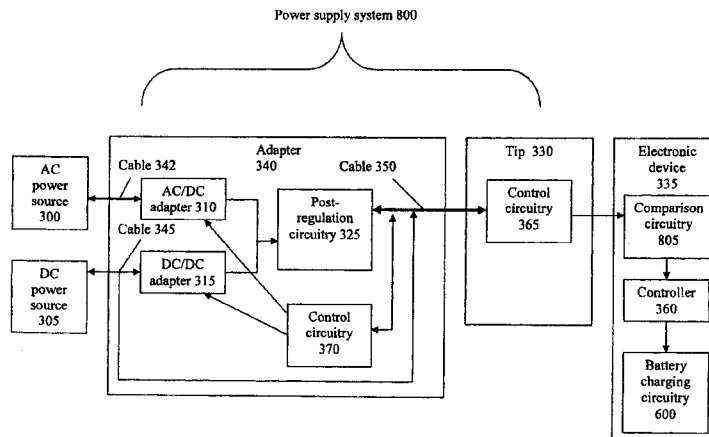
(Continued)

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(57) **ABSTRACT**

Power supply equipment includes an adapter to convert power from a power source to a DC power for powering an electronic device. The adapter includes circuitry for producing an analog data signal for use by the electronic device to control an amount of power drawn by the device. A cable has an output connector with a plurality of conductors to transfer the DC power and the analog data signal to the electronic device. The connector further includes circuitry to receive a data request from the electronic device and in response transmit a data output which identifies the power supply equipment to the electronic device.

2 Claims, 14 Drawing Sheets



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U.S. PATENT DOCUMENTS

5,420,496	A	5/1995	Ishikawa	
5,506,490	A	4/1996	Demuro	
5,534,765	A	7/1996	Kreisinger et al.	
5,570,002	A	10/1996	Castleman	
5,573,425	A	11/1996	Morisawa et al.	
5,593,323	A	1/1997	Dernehl	
5,615,344	A	3/1997	Corder	
5,694,024	A	12/1997	Dias et al.	
5,703,467	A	12/1997	Patino	
5,783,926	A	7/1998	Moon et al.	
5,836,783	A	11/1998	Morisawa et al.	
5,861,729	A	1/1999	Maeda et al.	
5,912,544	A	6/1999	Miyakawa et al.	
5,939,856	A	8/1999	Demuro et al.	
5,955,797	A	9/1999	Kim	
5,969,438	A	10/1999	Odaohara	
6,054,846	A	4/2000	Castleman	
6,288,522	B1	9/2001	Odaohara et al.	
6,358,096	B1	3/2002	Beckman	
6,360,177	B1	3/2002	Curt et al.	
6,368,155	B1	4/2002	Bassler et al.	
6,459,175	B1	10/2002	Potega	
6,528,970	B1	3/2003	Liu et al.	
6,597,565	B1	7/2003	Kluth et al.	
6,628,535	B1	9/2003	Wu	
6,751,109	B2	6/2004	Doss et al.	
6,795,302	B2	9/2004	Kluth et al.	
6,903,950	B2	6/2005	Afzal et al.	
6,999,505	B2	2/2006	Yokoo et al.	
RE39,036	E	3/2006	Castleman	
7,028,202	B2	4/2006	Long et al.	
7,039,821	B1*	5/2006	Potega	713/340
7,127,623	B2	10/2006	Potega	
7,145,312	B2	12/2006	Lanni	
7,392,099	B2*	6/2008	Atkinson et al.	700/22
7,392,410	B2	6/2008	Allen et al.	
7,453,171	B2	11/2008	Lanni	
7,868,486	B2	1/2011	Lanni	
7,937,603	B2	5/2011	Haberle et al.	
7,999,412	B2	8/2011	Lanni	
8,330,303	B2	12/2012	Lanni	
2002/0171980	A1	11/2002	Tsukihashi	

2003/0207603	A1	11/2003	Potega	
2003/0222503	A1	12/2003	Lam et al.	
2004/0075419	A1	4/2004	Massey et al.	
2005/0024030	A1*	2/2005	Lanni	323/274
2005/0127758	A1	6/2005	Atkinson et al.	
2005/0162020	A1	7/2005	Lanni	
2006/0164061	A1	7/2006	Formenti et al.	
2006/0220465	A1	10/2006	Kingsmore, Jr. et al.	

OTHER PUBLICATIONS

European Search Report dated Sep. 28, 2006 for EP Patent Application No. EP05250133.5, 3 pages.

European Search Report dated Feb. 6, 2009 for EP Patent Application No. 07254497.6, 13 pages.

European Patent Office, "Examination Report/Communication Pursuant to Article 94(3) EPC" re: U.S. Appl. No. 05/250,133.5, Date: Jun. 14, 2012, 11 pages.

National Semiconductor Corporation, "Datasheet for LM2601 Adapter Interface Circuit", dated Apr., 2001, 6 pages.

Radio Shack 1990 Catalog, cover page and p. 151, 1990.

Radio Shack 1994 Catalog, cover page and p. 142, 1994.

Radio Shack 1995 Catalog, cover page and p. 150-151, 1995.

Minwa Products, "MW182", Minwa Products Catalog 1993, 1 page.

Power Stream Technology, "High Quality Automobile to Laptop DC/DC Converter" Specification sheet copyright 2000, 2002, 2003, 2004—4 pages.

Acco Brands USA LLC vs. Comarco Wireless Technologies, Inc., Case No. C11-4378 RS, U. S. District Court for the Northern District of California, Plaintiff and Counterdefendant Cco' Invalidation Contentions, pp. 1-3 and Exhibit E, pp. 1-6, Jun. 27, 2012.

Declaration of Thomas W. Lanni Regarding Comarco N19 and N24 Tips, May 14, 2013, 2 pages.

Comarco Wireless Technologies, Inc. Specification Control Drawing No. 1910-0219, "Tip N19", May 14, 2004, 5 pages.

Comarco Wireless Technologies, Inc. Specification Control Drawing No. 1245-0021-T, "EPROMDS2502, TO-92", Jun. 21, 2005, 1 page.

Comarco Wireless Technologies, Inc. Specification Control Drawing No. 1910-0224, "Tip N24", Oct. 23, 2004, 5 pages.

* cited by examiner

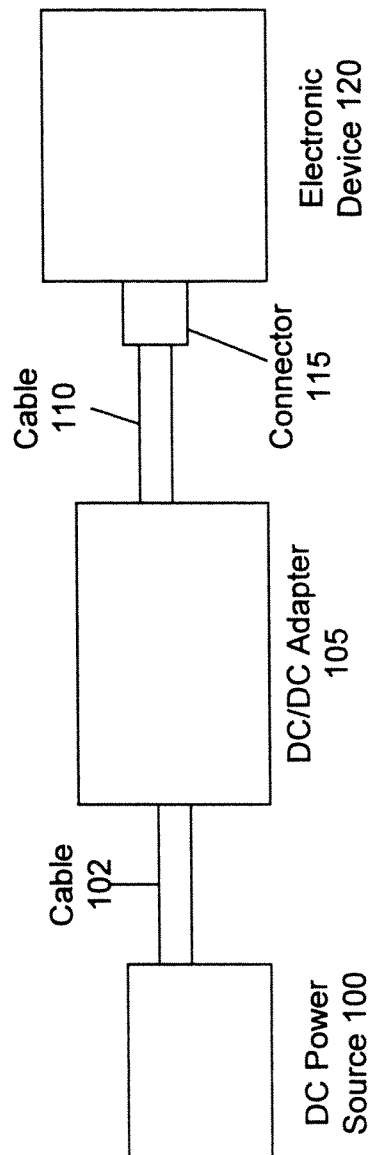


Fig. 1 (Prior Art)

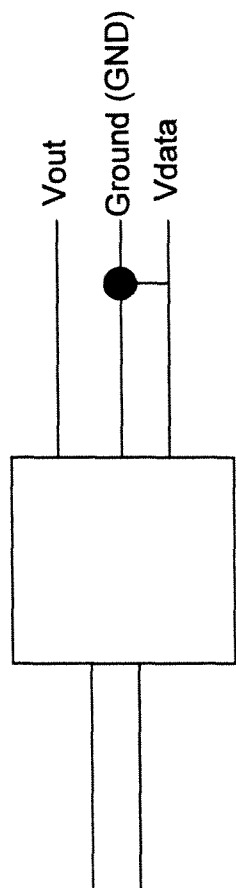


Fig. 2A

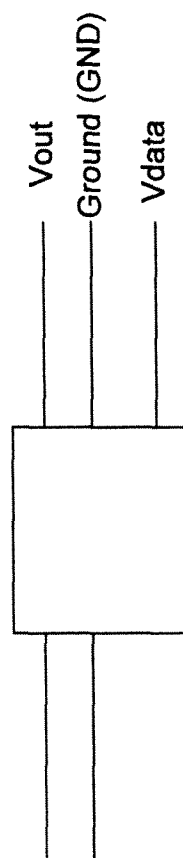


Fig. 2B

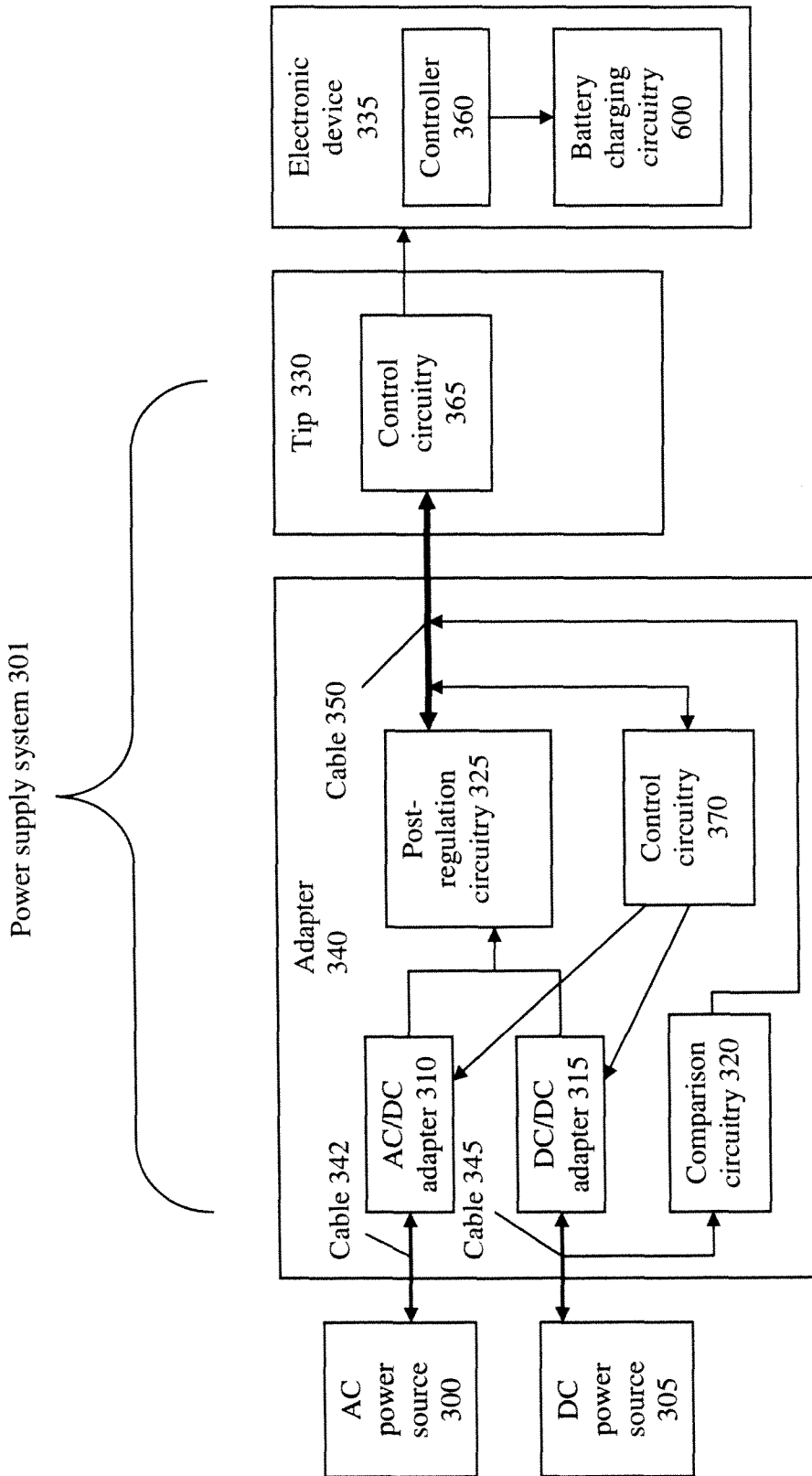


FIG. 3

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