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6,067,241

United States Patent [19]

Lu **Date of Patent:** *May 23, 2000 [45]

[11]

[54] **DUAL-OUTPUT DC-DC POWER SUPPLY**

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Assignee: International Power Devices, Inc.,

Boston, Mass.

[*] Notice: This patent issued on a continued pros-

ecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C.

154(a)(2).

[21] Appl. No.: 09/016,074

[22] Filed: Jan. 30, 1998

Related U.S. Application Data

Division of application No. 08/763,685, Dec. 11, 1996, Pat. No. 5,715,153.

[51]	Int. Cl. ⁷	 H02N	1 00/00
[52]	U.S. Cl.	 363/65; 3	363/146

323/269, 271, 272; 363/65, 146; 307/12, 17, 33, 36, 37, 39

References Cited [56] U.S. PATENT DOCUMENTS

Patent Number:

3,723,850	3/1973	Daniels et al
3,760,256	9/1973	Rast, Jr. et al 323/282
4,628,426 1	2/1986	Steigerwald 363/21
4,680,688	7/1987	Inou et al
4,733,104	3/1988	Steigerwald et al 307/260
5,019,959	5/1991	MacDonald et al 363/134
5,225,767	7/1993	Gulczynski 323/282
5,400,239	3/1995	Caine
5,541,828	7/1996	Rozman
5,663,874	9/1997	Mader et al

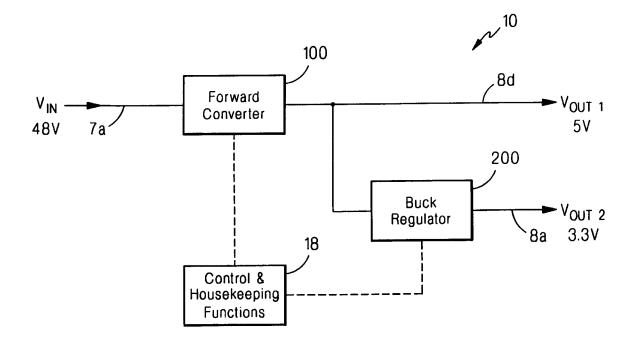
Primary Examiner—Matthew Nguyen

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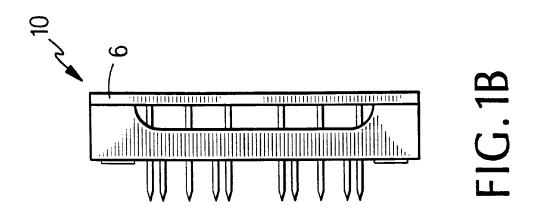
[57] **ABSTRACT**

A multi-output power supply having half-brick dimensions includes a forward converter circuit which receives a DC input voltage and in response to a first control signal generates a first DC output voltage at a first level; and a buck regulator circuit which receives the first DC output voltage from the forward converter circuit. In response to a second control signal, the buck regulator generates a second DC output voltage at a second level.

11 Claims, 10 Drawing Sheets







May 23, 2000

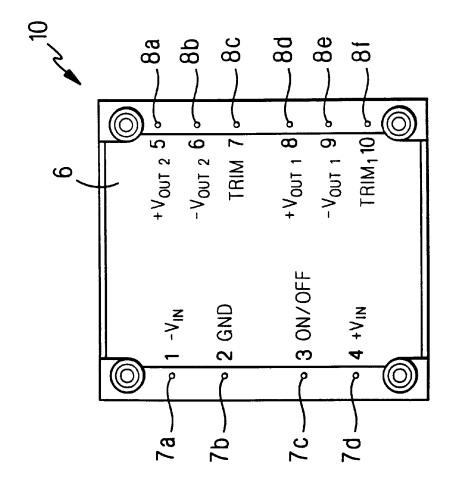
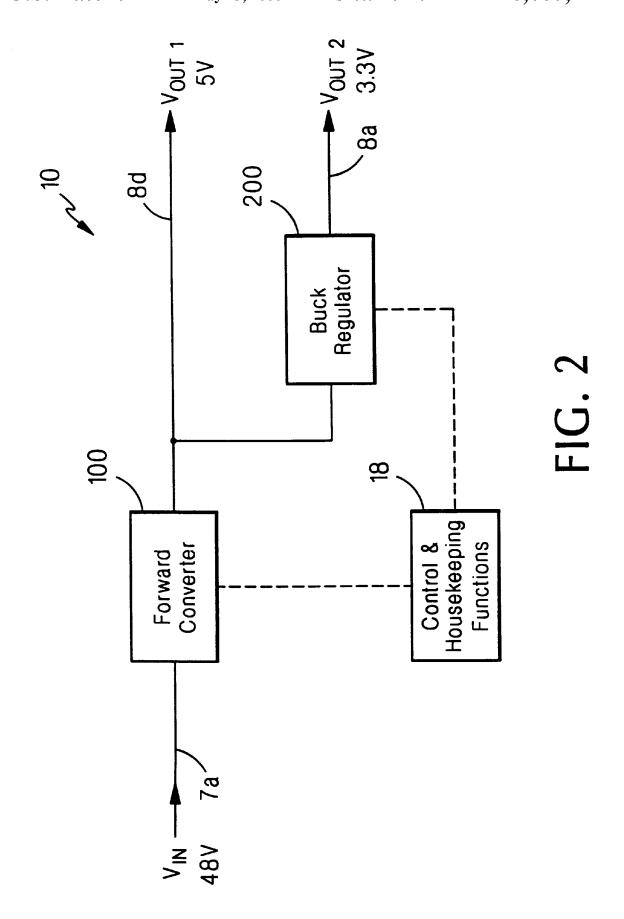
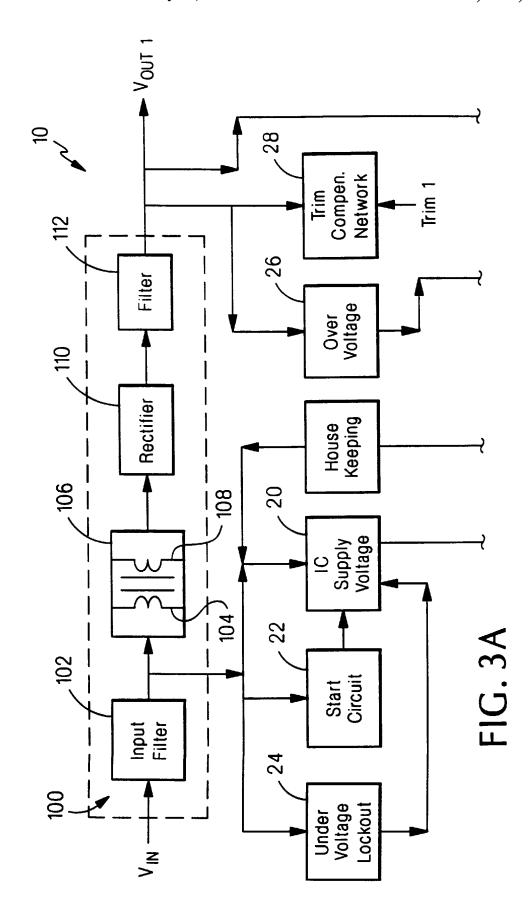
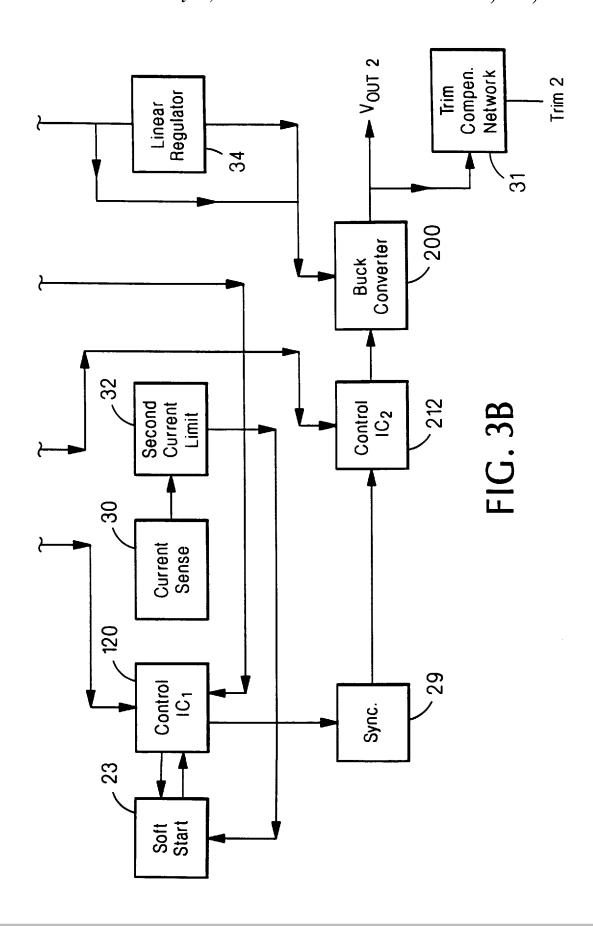


FIG. 1A











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