



[54] SYSTEM AND METHOD FOR VOLTAGE SWITCHING TO SUPPLY VARIOUS VOLTAGES AND POWER LEVELS TO A PERIPHERAL DEVICE

5,560,022 9/1996 Dunstan et al. .... 395/750.01  
5,652,895 7/1997 Poisner ..... 395/750.04  
5,742,514 4/1998 Bonola ..... 379/258

[75] Inventors: Sergio Amoni, Raleigh; Paul Daniel Kangas, Cary; John David Landers, Jr., Raleigh, all of N.C.

Halfhill, T. R., "The New PC," *BYTE*, Oct. 1995, pp. 52-64.  
Klein, R. H., "Bus Pass for Serial Killers," *New Electronics*, 9 Jan. 1996, pp. 18-19.

[73] Assignee: International Business Machines Corporation, Armonk, N.Y.

*Universal Serial Bus Specification*, 1.0 Final Draft Revision, Nov. 13, 1995, Copyright ©1995, Compaq Computer Corporation, et al.

[21] Appl. No.: 842,695

Wright, M., Ed., "USB and IEEE 1394: Pretenders, Contenders, or Locks for Ubiquitous Desktop Deployment?" *EDN*, Apr. 25, 1996, pp. 79-91.

[22] Filed: Apr. 15, 1997

[51] Int. Cl.<sup>6</sup> ..... G06F 1/26

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[52] U.S. Cl. .... 395/750.01; 395/750.02; 364/492

[58] Field of Search ..... 395/750.01, 750.03, 395/750.07, 750.06; 364/707, 492

[57] ABSTRACT

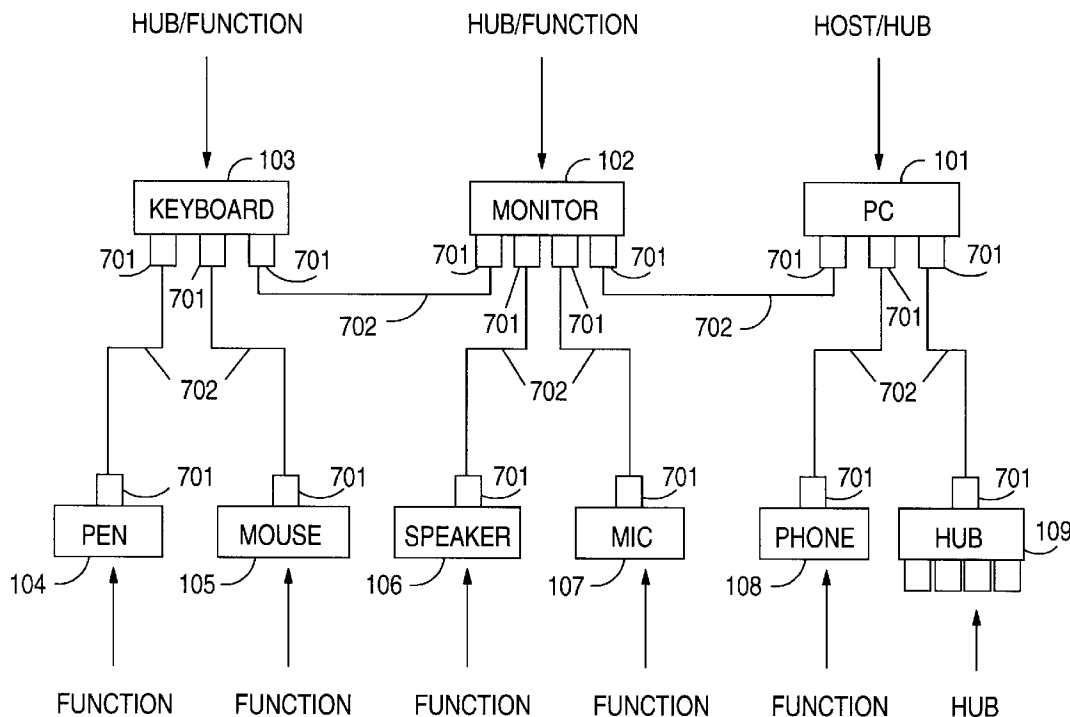
Within a data processing system, such as a personal computer, non-standard, or auxiliary, voltage and current may be supplied to an attached peripheral device along with standard Universal Standard Bus (USB) power and signaling. A communication protocol is enabled between the host system and the peripheral device to permit the peripheral device to communicate its power requirements to the host device so that the host device can switch the proper voltage and current through the USB cable to the peripheral device. This allows the peripheral device to obtain power without having to connect to an AC power supply.

[56] References Cited

U.S. PATENT DOCUMENTS

4,782,355 11/1988 Sakai et al. .... 396/72  
4,884,287 11/1989 Jones et al. .... 375/377  
4,901,217 2/1990 Wilson ..... 363/126  
5,121,500 6/1992 Arlington et al. .... 395/750.07  
5,179,710 1/1993 Coschieri ..... 395/750.01  
5,313,642 5/1994 Seigel ..... 395/750.05  
5,408,669 4/1995 Stewart et al. .... 395/750.01  
5,483,656 1/1996 Oprescu et al. .... 395/750.03  
5,493,684 2/1996 Gephardt et al. .... 395/750.04  
5,514,859 5/1996 Seigel ..... 235/462

21 Claims, 9 Drawing Sheets



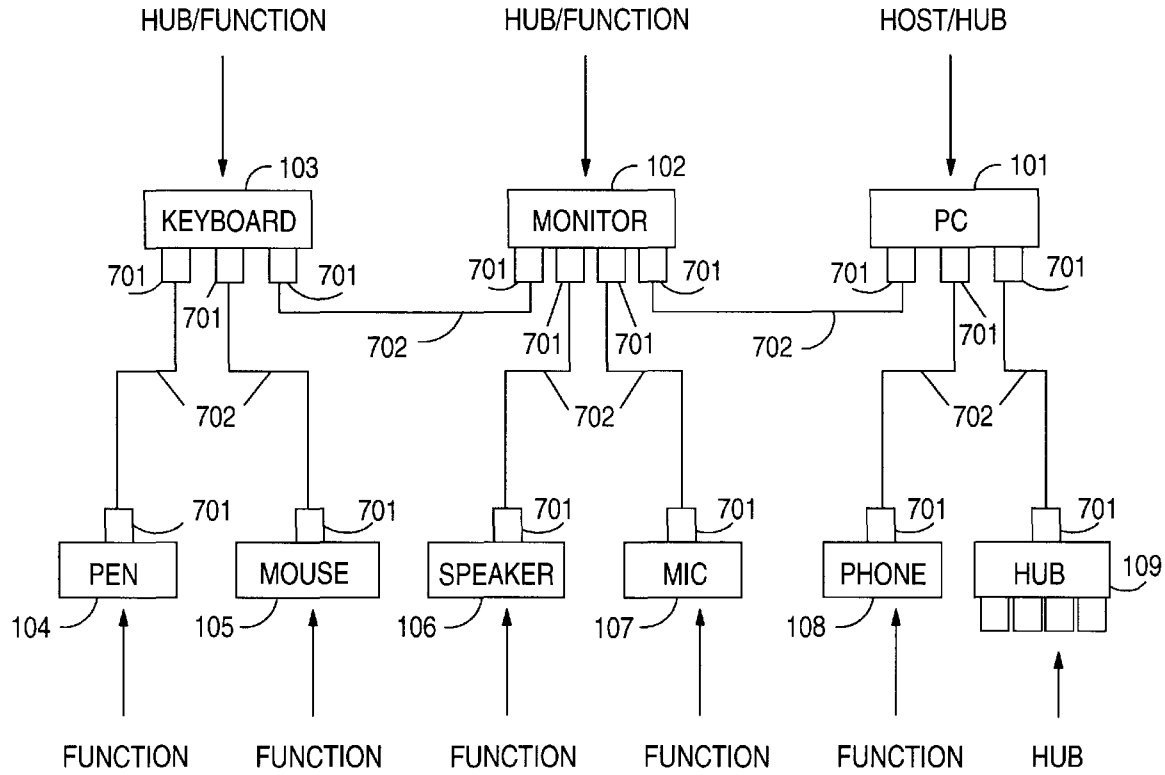


FIG. 1

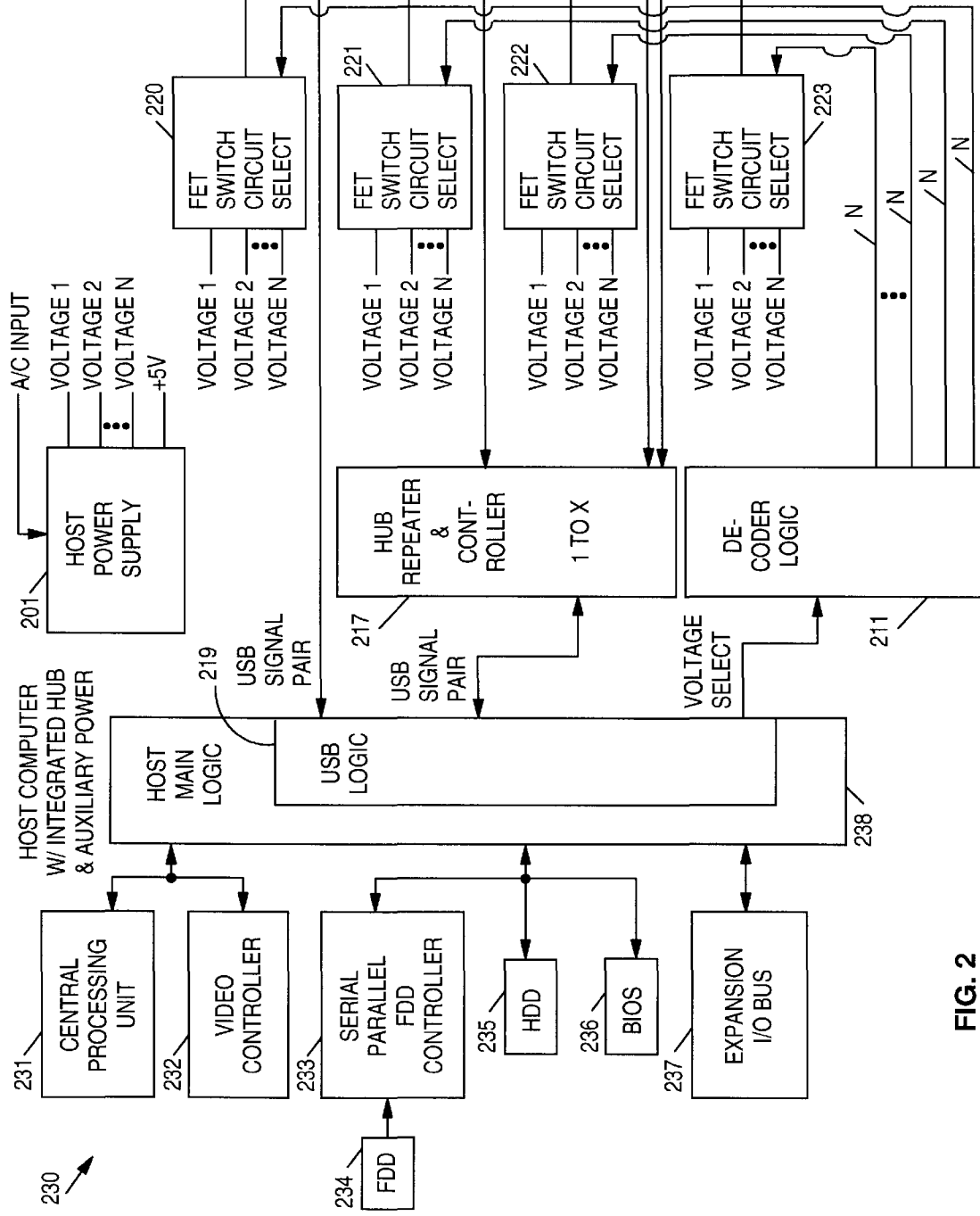


FIG. 2

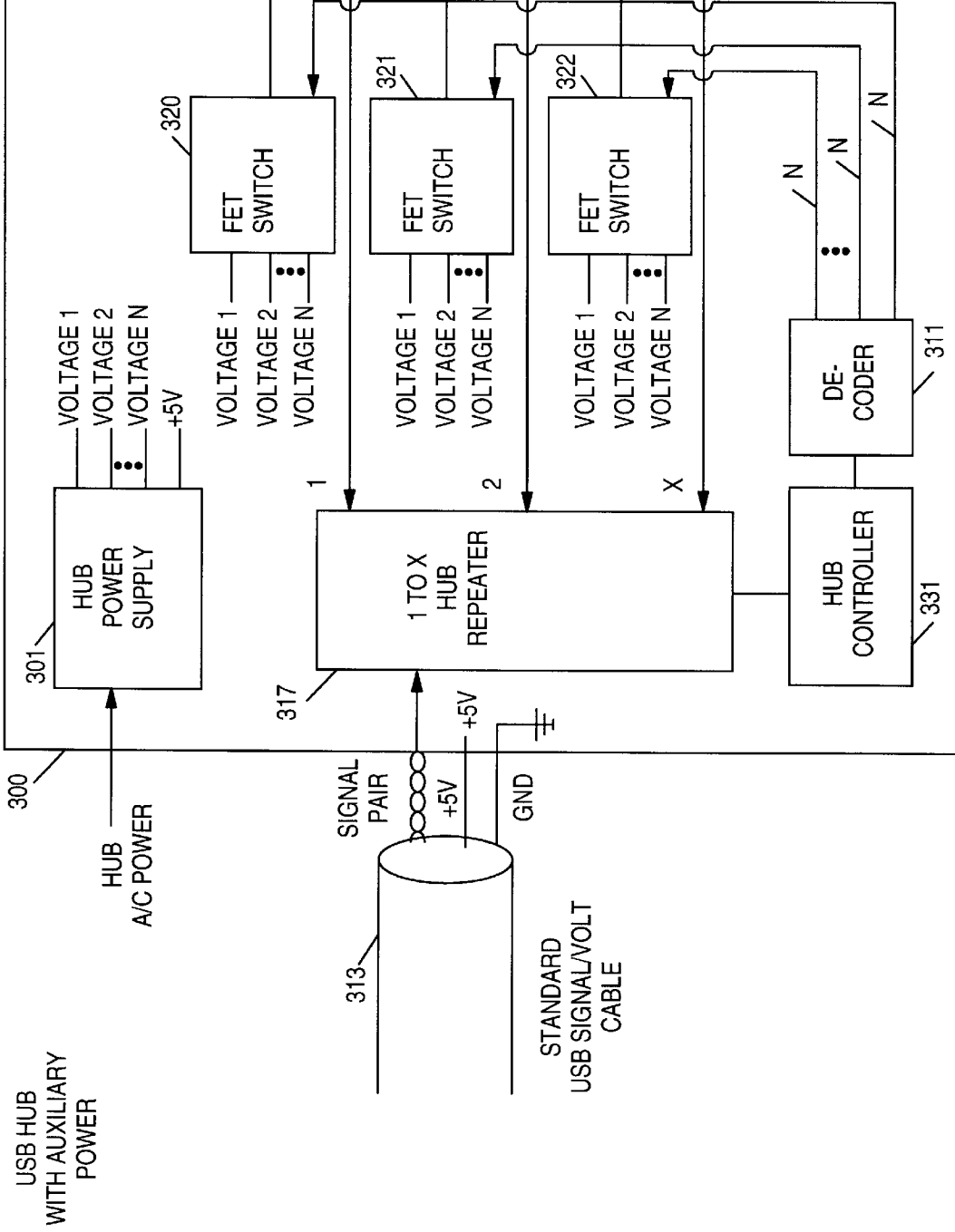


FIG. 3

USB DEVICE  
WITH AUXILIARY  
POWER

USB I/O DEVICE

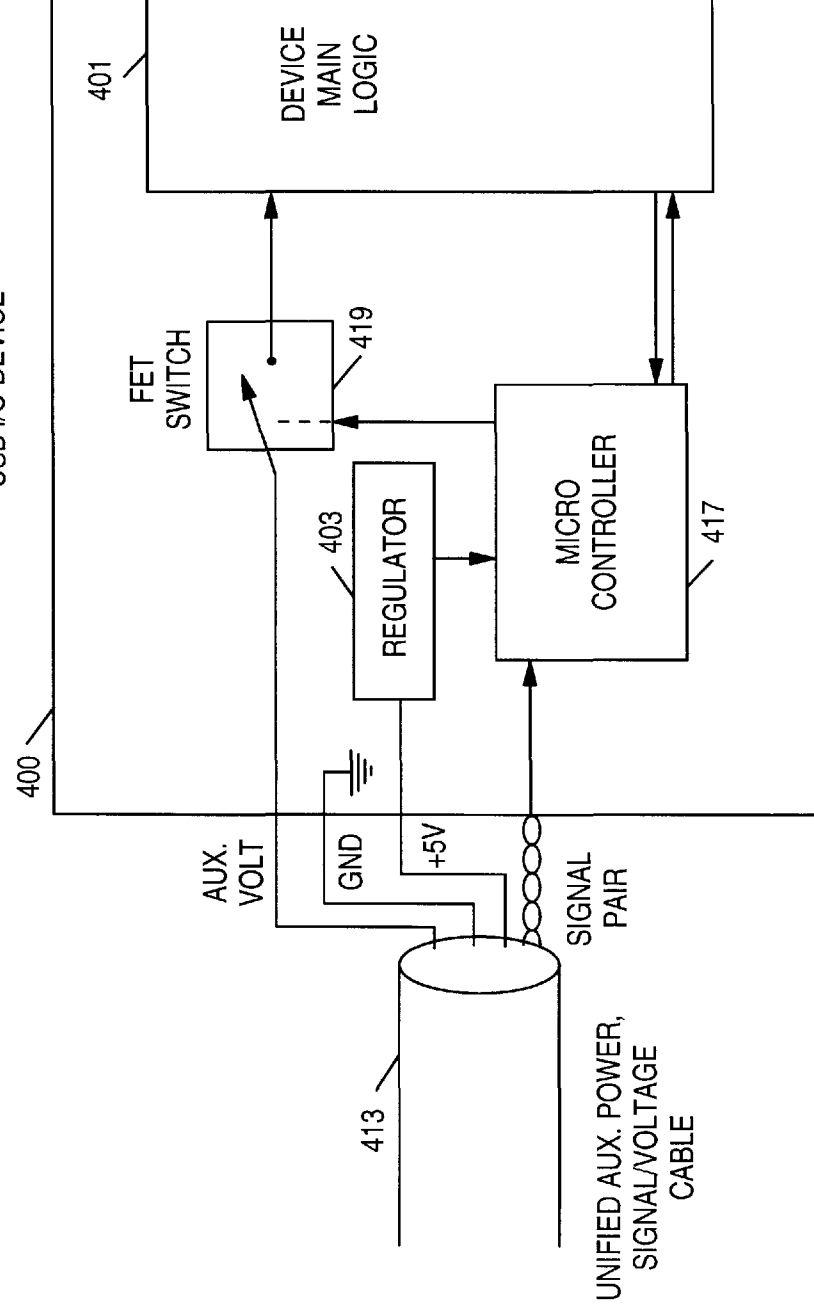


FIG. 4

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