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Maxon et al.

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(54) **CONTROL SYSTEM AND USER INTERFACE FOR NETWORK OF INPUT DEVICES**

(56) **References Cited**

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U.S. PATENT DOCUMENTS

5,416,535 A * 5/1995 Sato et al. 348/706
5,455,636 A * 10/1995 Furrey et al. 348/731
5,596,372 A 1/1997 Berman et al.
5,602,664 A * 2/1997 Doyle 398/126

(Continued)

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(57) **ABSTRACT**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 504 days.

Apparatus, methods, and systems for centrally and uniformly controlling the operation of a variety of devices, such as communication, consumer electronic, audio-video, analog, digital, 1394, and the like, over a variety of protocols within a network system and, more particularly, a control system and uniform user interface for centrally controlling these devices in a manner that appears seamless and transparent to the user. In a preferred embodiment, a command center or hub of a network system includes a context and connection permutation sensitive control system that enables centralized and seamless integrated control of all types of input devices. The control system preferably includes a versatile icon based graphical user interface that provides a uniform, on-screen centralized control system for the network system. The user interface, which includes a visual recognition system, enables the user to transparently control multiple input devices over a variety of protocols while operating on a single control layer of an input command device. In an alternative embodiment, the control system also enables gated signal pass-through control while avoiding signal jamming.

(21) Appl. No.: **10/138,451**

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(65) **Prior Publication Data**

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Related U.S. Application Data

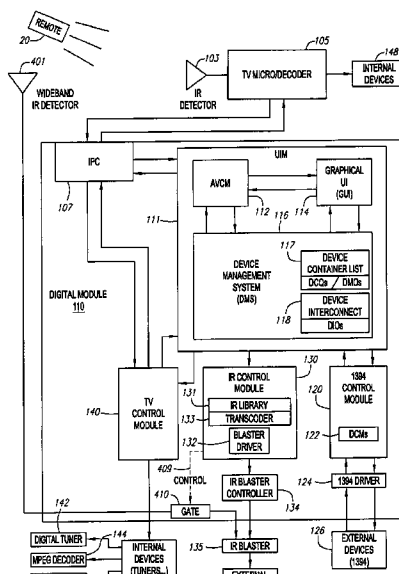
(60) Provisional application No. 60/288,317, filed on May 3, 2001.

(51) **Int. Cl.** **H04N 5/44**

(52) **U.S. Cl.** **348/734; 348/552; 715/717; 715/718; 340/825.72**

(58) **Field of Search** **726/37, 38; 715/714, 715/716, 718, 719; 348/734, 706, 731, 705, 460, 552, 553, 554; 340/825.69, 825.22, 825.24, 825.25, 825.72; 700/17**

45 Claims, 19 Drawing Sheets



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U.S. PATENT DOCUMENTS

5,883,677	A	3/1999	Hofmann	6,239,794	B1	5/2001	Yuen et al.	
5,990,883	A	11/1999	Byrne et al.	6,288,716	B1	9/2001	Humpleman et al.	
5,995,155	A	11/1999	Schindler et al.	6,314,326	B1	* 11/2001	Fuchu	700/17
6,003,041	A	12/1999	Wugofski	6,359,580	B1	3/2002	Morrison	
6,032,202	A	2/2000	Lea et al.	6,359,636	B1	3/2002	Schindler et al.	
6,038,614	A	3/2000	Chan et al.	6,449,767	B1	9/2002	Krapf et al.	
6,131,130	A	10/2000	Van Ryzin et al.	6,469,633	B1	* 10/2002	Wachter	340/825.69
6,169,879	B1	1/2001	Perlman	6,546,419	B1	4/2003	Humpleman et al.	
6,182,094	B1	1/2001	Humpleman et al.	6,556,219	B1	4/2003	Wugofski	
6,182,287	B1	1/2001	Schneidewend et al.	6,567,106	B1	5/2003	Wugofski	
6,219,839	B1	4/2001	Sampsell	6,801,957	B1	10/2004	Sadanaka et al.	

* cited by examiner

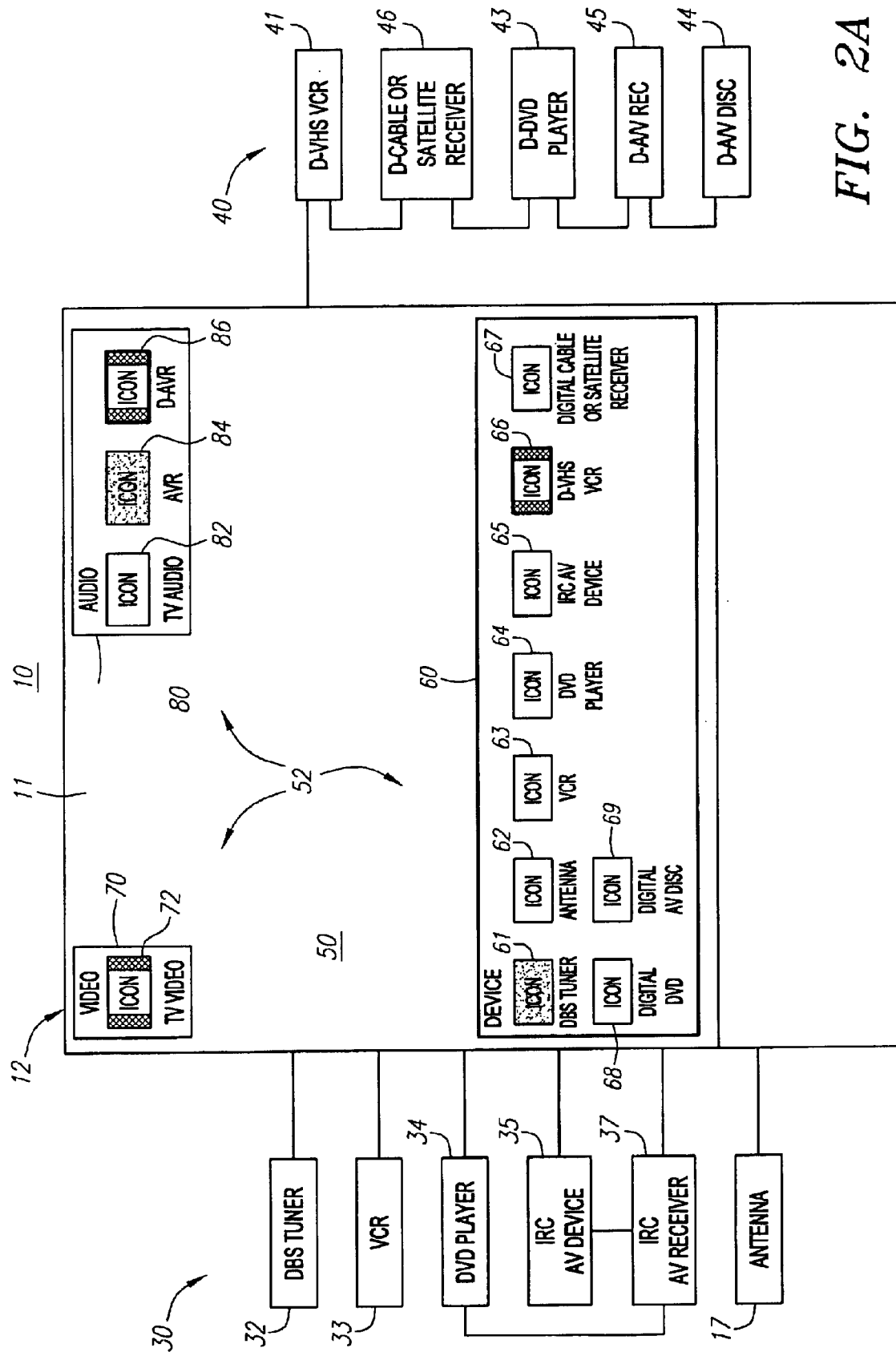


FIG. 2A

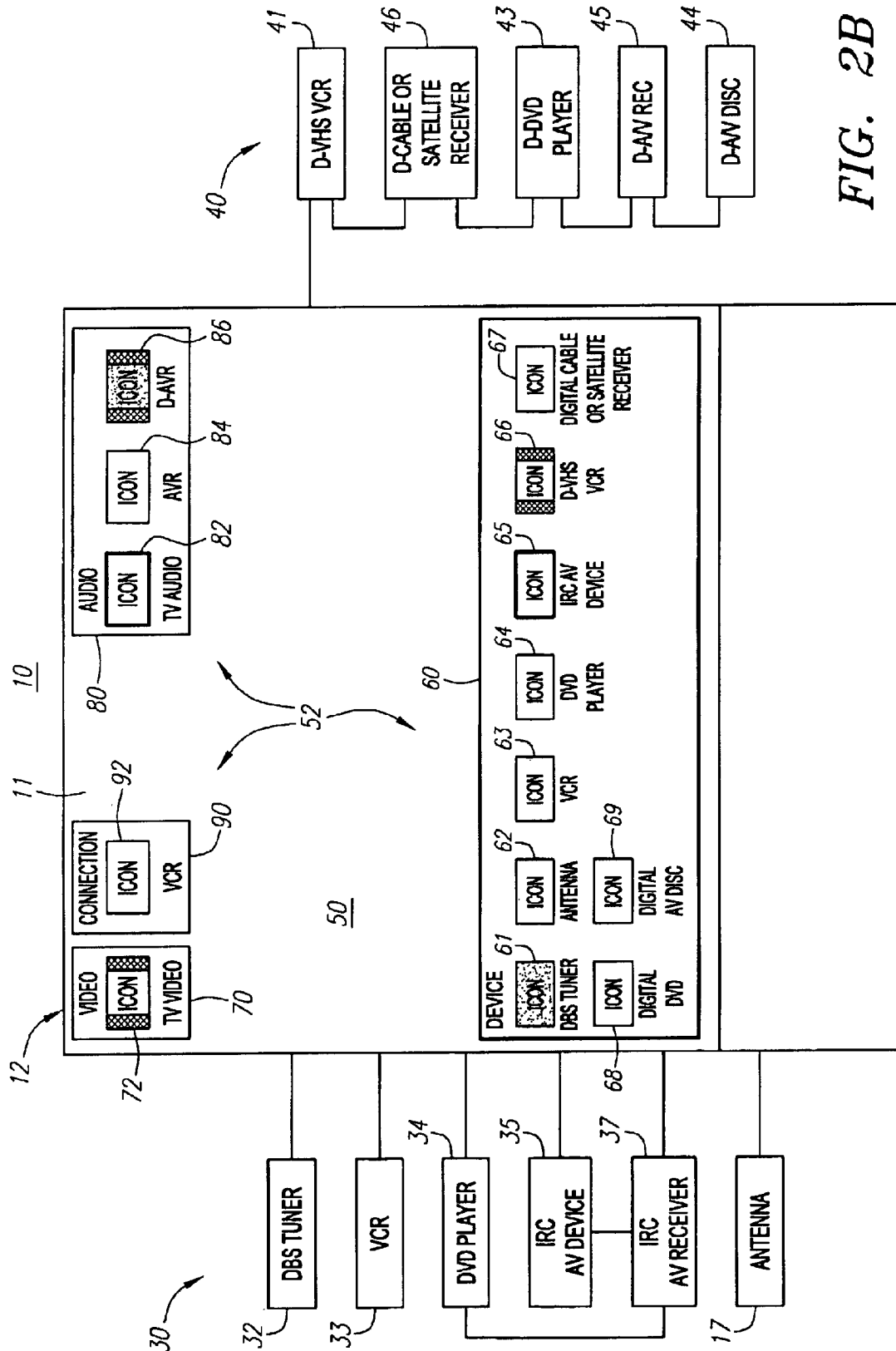


FIG. 2B

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