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(12) **United States Patent**  
**Maxon et al.**

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

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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**

(22) Filed: **May 3, 2002**

(65) **Prior Publication Data**

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**Related U.S. Application Data**

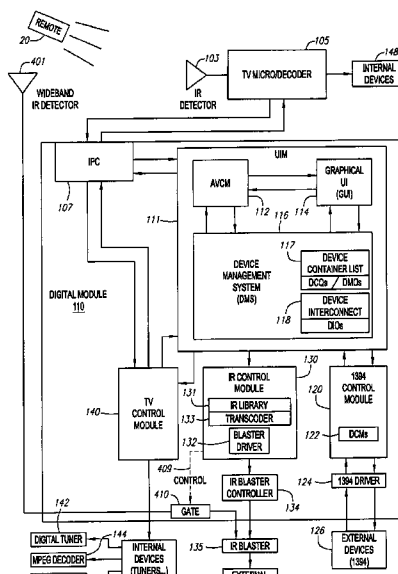
(60) Provisional application No. 60/288,317, filed on May 3, 2001.

(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**



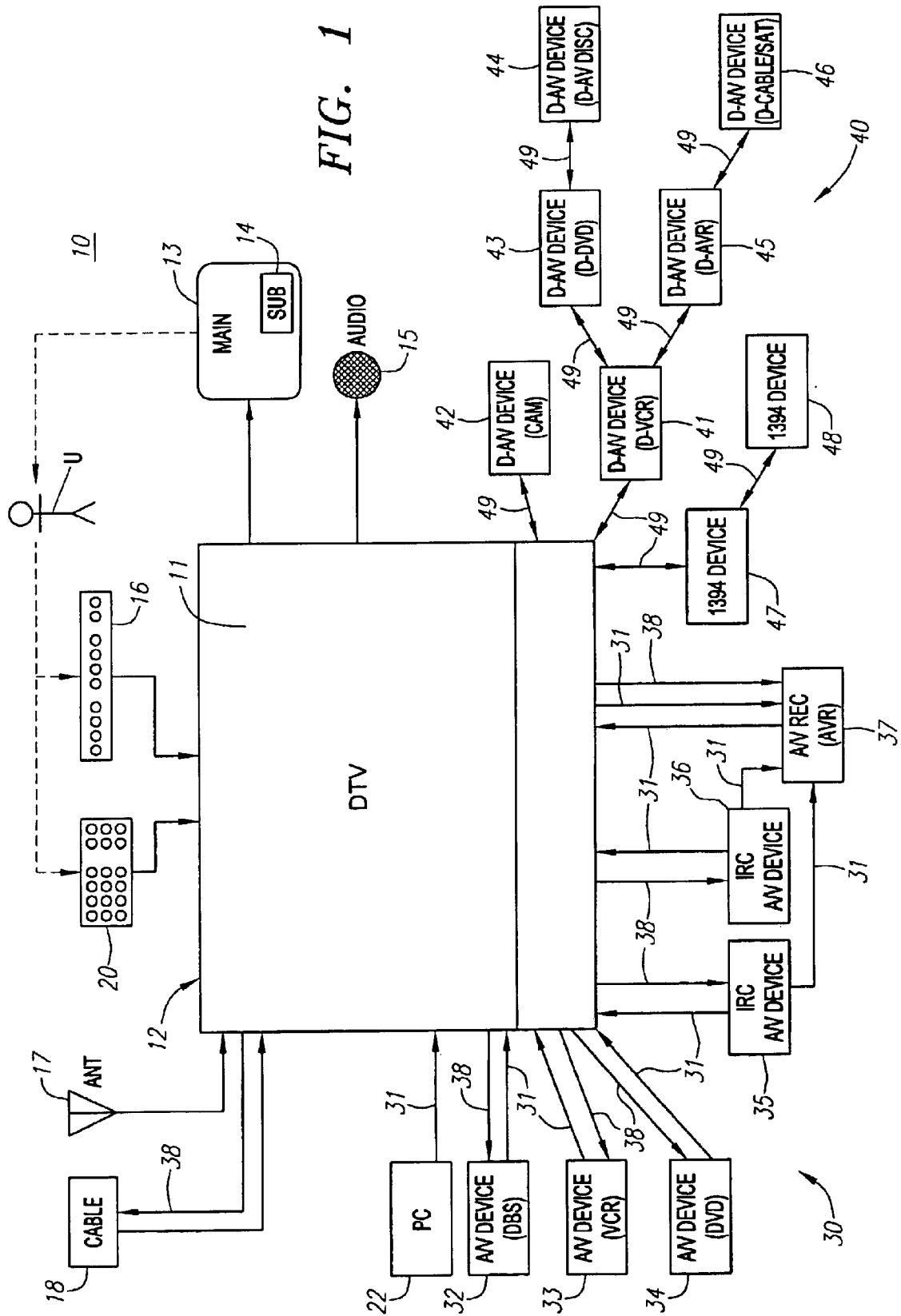
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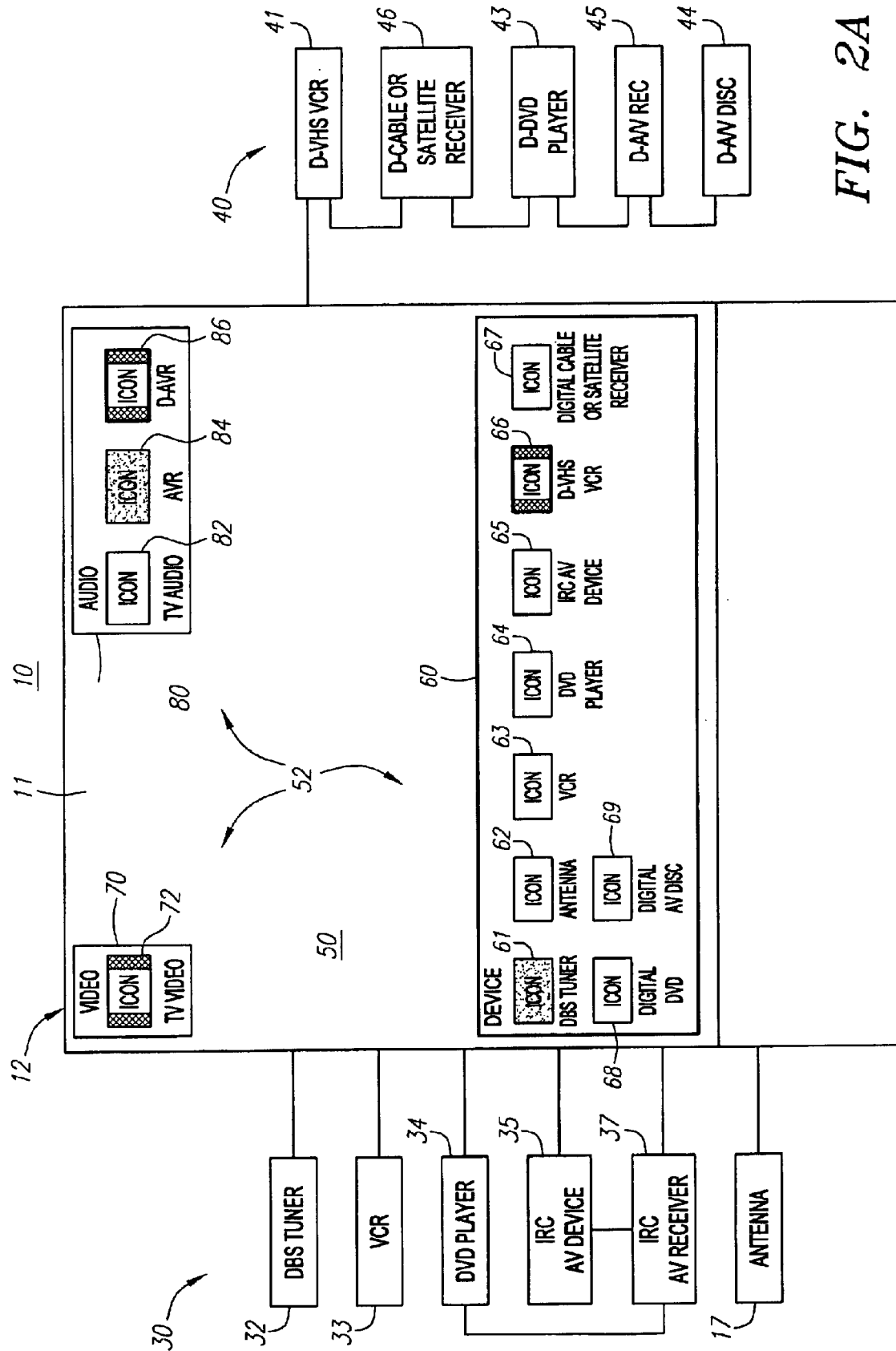


FIG. 2A

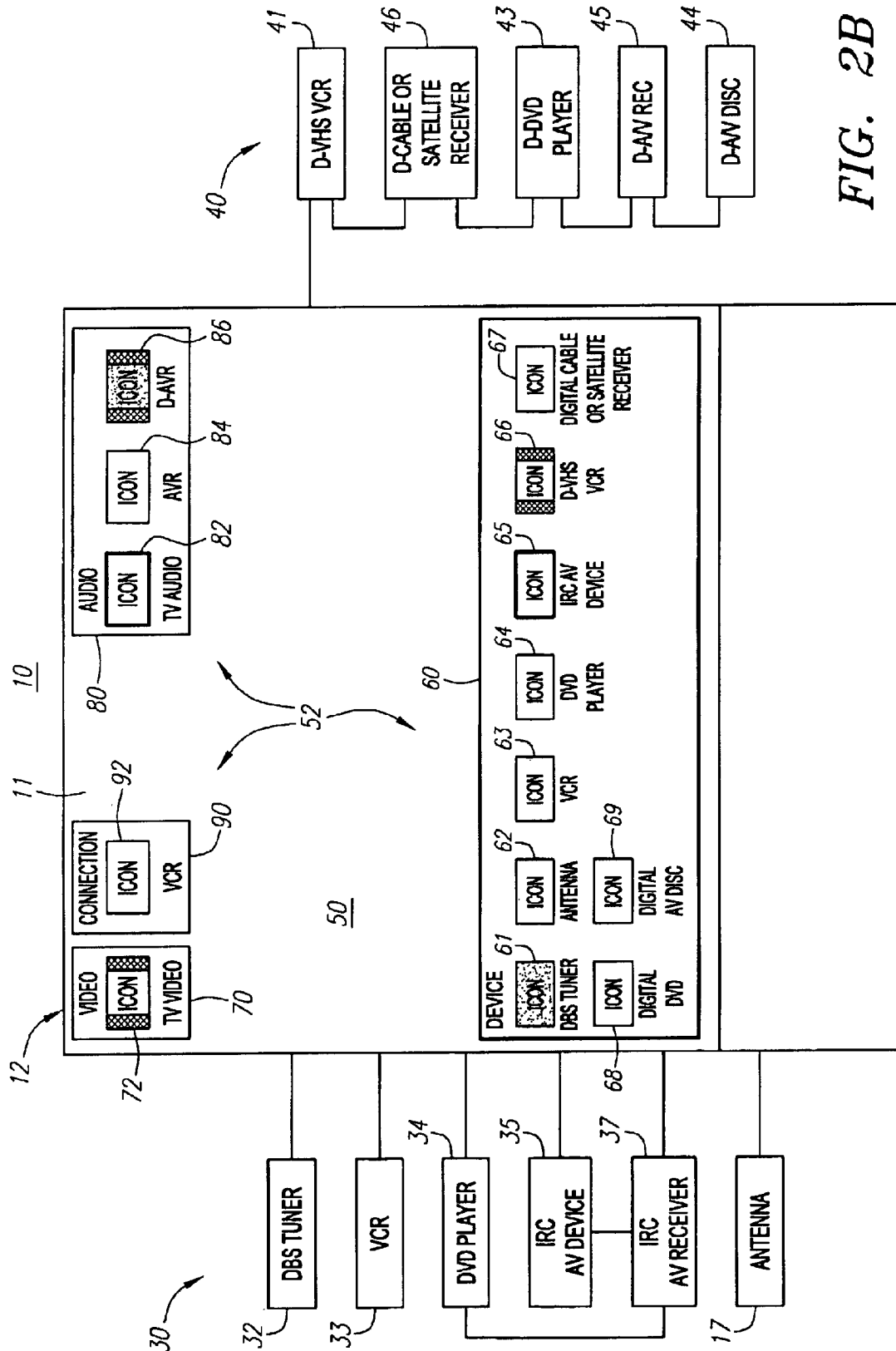


FIG. 2B

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