

(12) **United States Patent**  
**Gazdzinski**

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- (54) **“SMART” ELEVATOR SYSTEM AND METHOD**
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- (\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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- (51) **Int. Cl.<sup>7</sup>** ..... **G10L 15/22**
- (52) **U.S. Cl.** ..... **704/275; 704/246; 704/251; 187/396**
- (58) **Field of Search** ..... **704/251, 246, 704/271, 272, 273, 275; 187/384, 392, 396**

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(57) **ABSTRACT**

An information and control system for personnel transport devices. In one embodiment, the information and control system is coupled to the elevator system of a building, and includes a touch panel input device, a flat panel display having a touch sensitive screen, and speech recognition and synthesis systems serving each elevator car. The speech recognition and synthesis systems and input device(s) are operatively coupled to a processor and storage devices having a plurality of different types of data stored thereon. Each elevator car is also a client connected to a LAN, WAN, intranet, or Internet, and capable of exchanging data with and retrieving data therefrom. Functions performed by the information and control system include a voice-actuated building directory, download of selected data to personal electronic devices (PEDs), monitoring of areas adjacent to the elevator car on destination floors, and control of lighting and security monitoring in selectable areas of destination floors. The system is also optionally fitted with an RFID interrogator/reader capable of recognizing RFID tags carried by passengers on the elevator, thereby granting access to various controlled locations automatically after password authentication. The RFID system also allows the authenticated passenger(s) to control utilities such as lighting and HVAC within specific zones on their destination floors. The information and control system is also optionally equipped with an occupancy estimating sub-system which allows elevator cars to bypass calling floors when their capacity is reached or exceeded.

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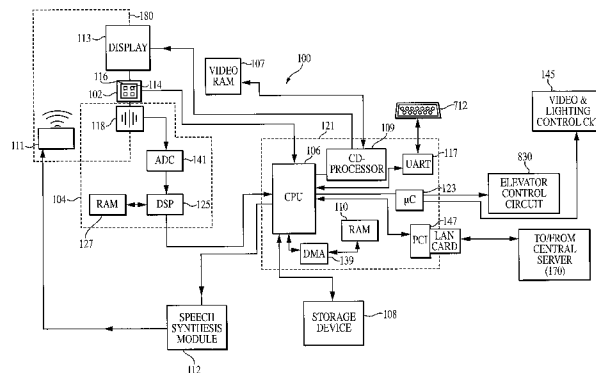
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**25 Claims, 24 Drawing Sheets**



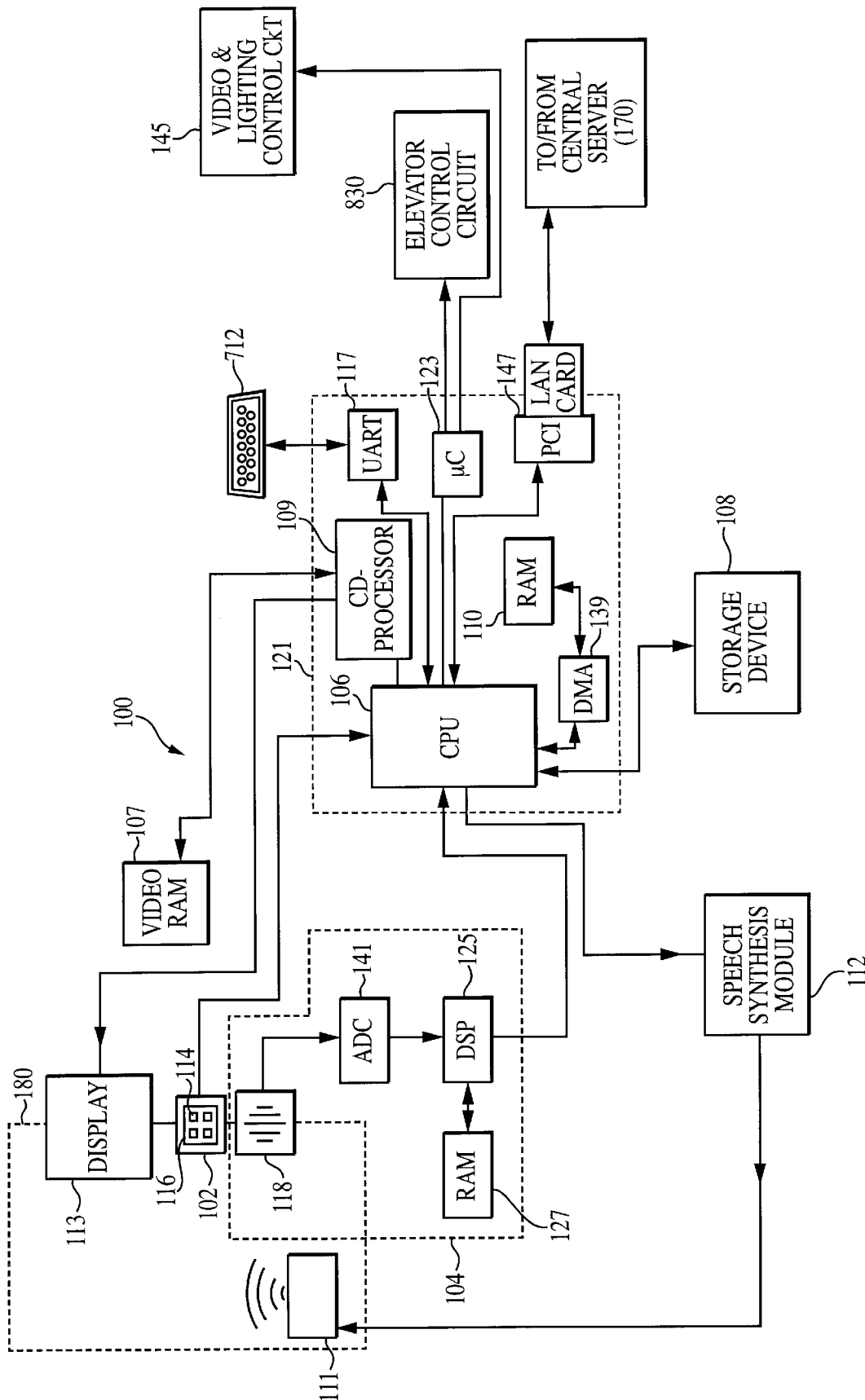


FIG. 1

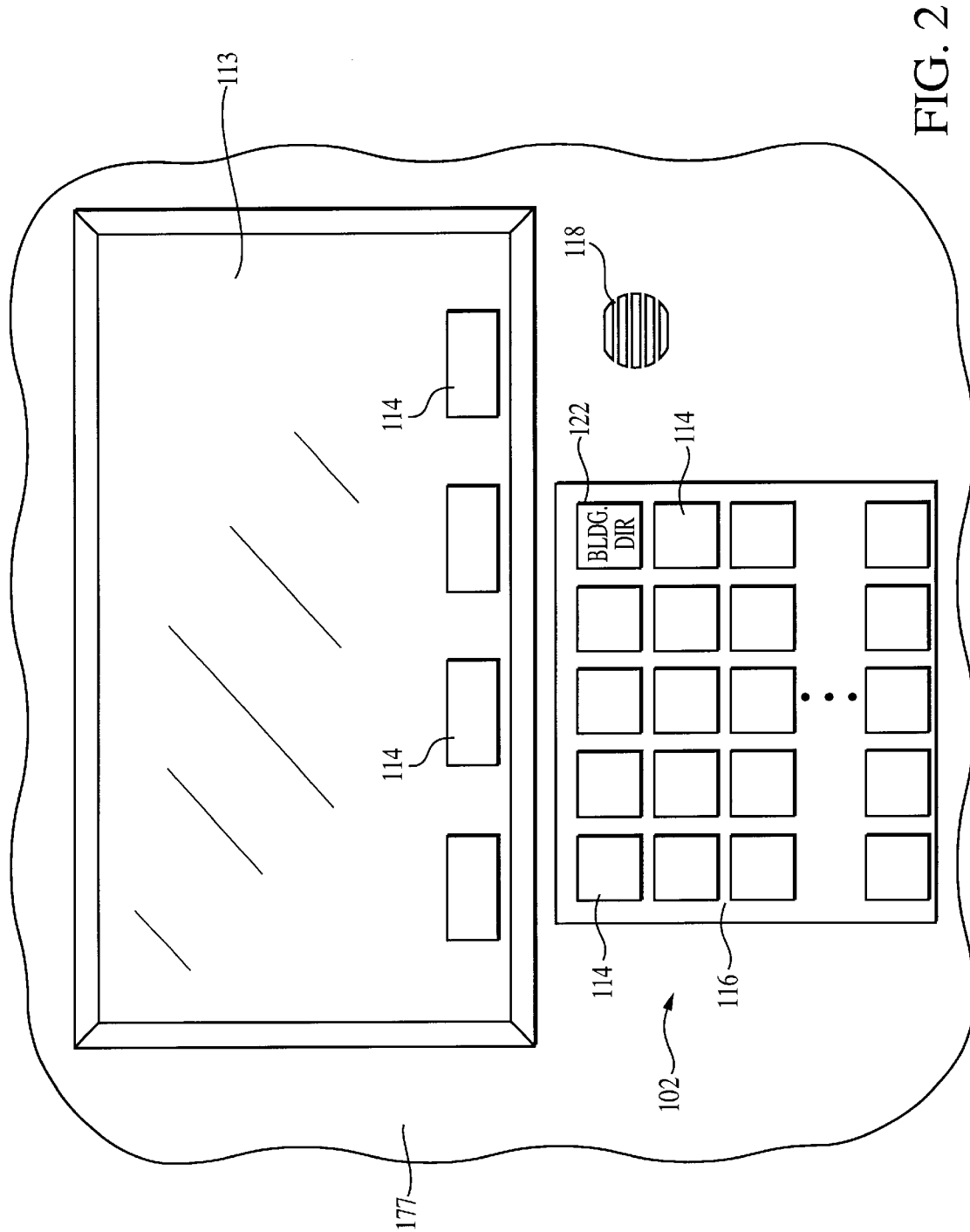


FIG. 2

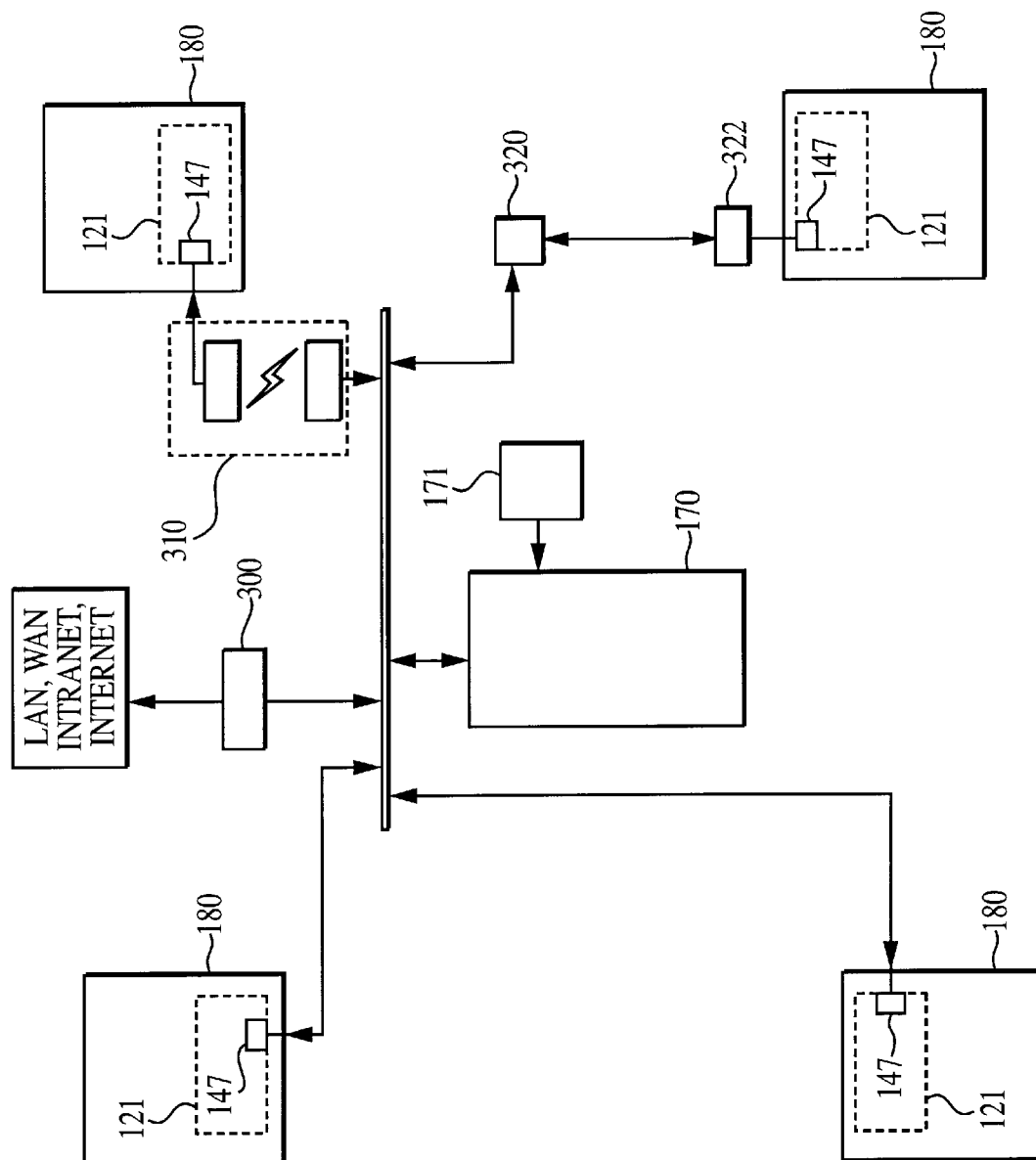


FIG. 3

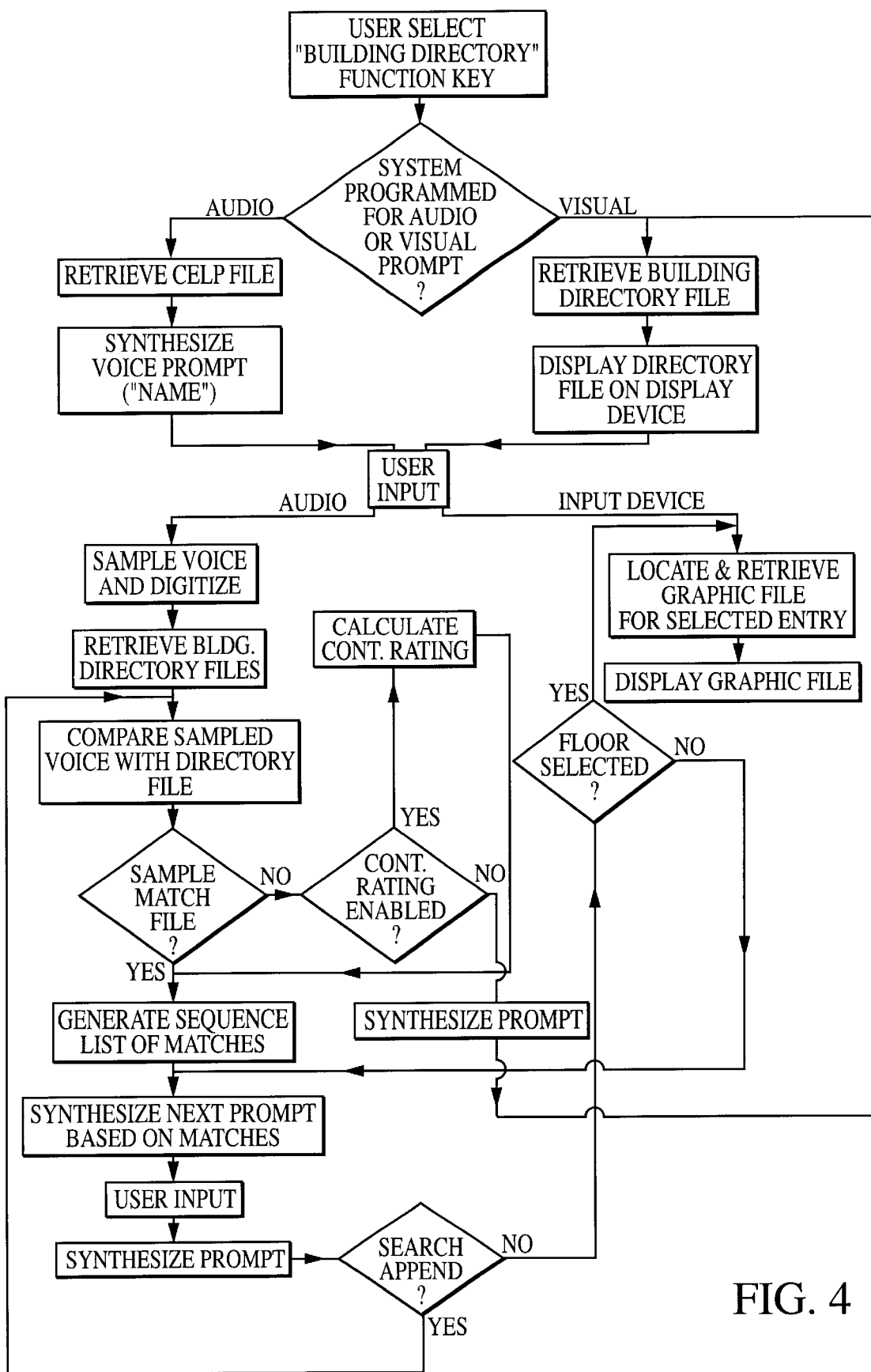


FIG. 4

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