

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

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 (45) **Date of Patent:** **Apr. 8, 2003**

(54) **BIDIRECTIONAL REMOTE CONTROL SYSTEM, BIDIRECTIONAL REMOTE CONTROLLER, AND DEVICE CONTROLLED BY BIDIRECTIONAL REMOTE CONTROLLER**

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\* cited by examiner

(\*) 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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(57) **ABSTRACT**

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A bidirectional remote control system including a bidirectional remote controller and first and second devices controlled thereby, wherein the first device is for receiving a request of device information from the bidirectional remote controller and for sending the device information to the bidirectional remote controller. The bidirectional remote controller is also for sending the request of the device information to the first device, receiving the device information from the first device and sending the device information to the second device, which is for receiving the device information from the bidirectional remote controller.

(30) **Foreign Application Priority Data**

Mar. 6, 1998 (JP) ..... 10-054665

(51) **Int. Cl.**<sup>7</sup> ..... **G05B 23/02**

(52) **U.S. Cl.** ..... **340/3.31; 340/3.1; 340/3.3; 340/825.22; 340/825.37; 340/825.69; 340/825.72**

(58) **Field of Search** ..... 340/3.1, 3.3, 3.31, 340/825.69, 825.72, 825.22, 825.37

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**14 Claims, 16 Drawing Sheets**

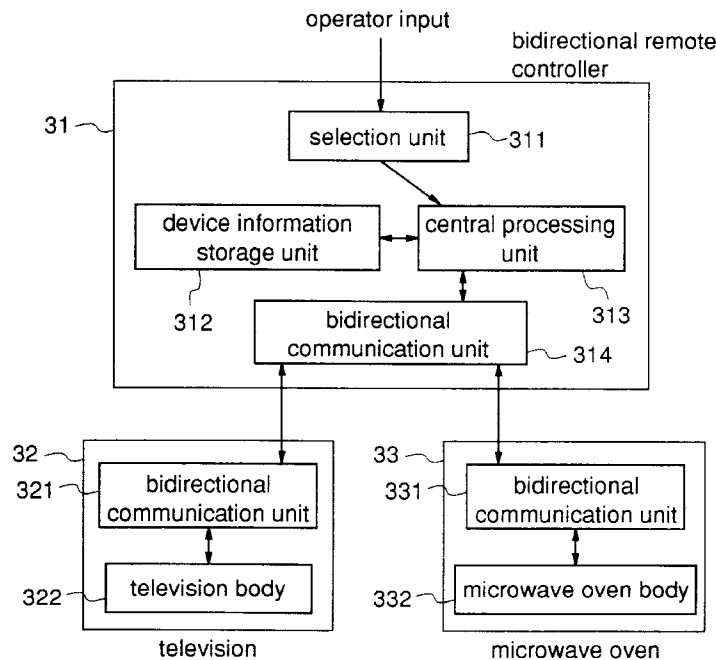


Fig.1

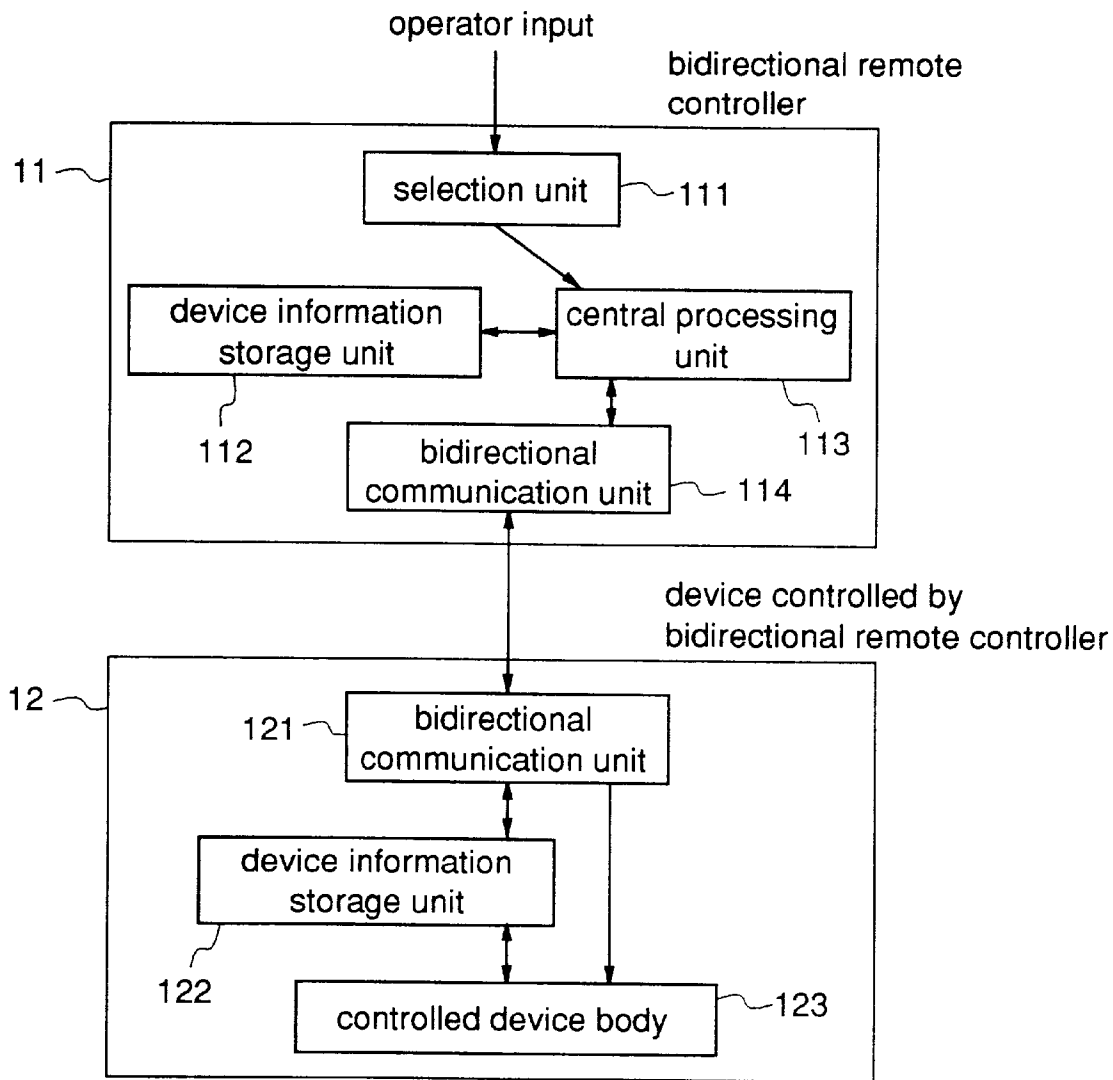


Fig.2

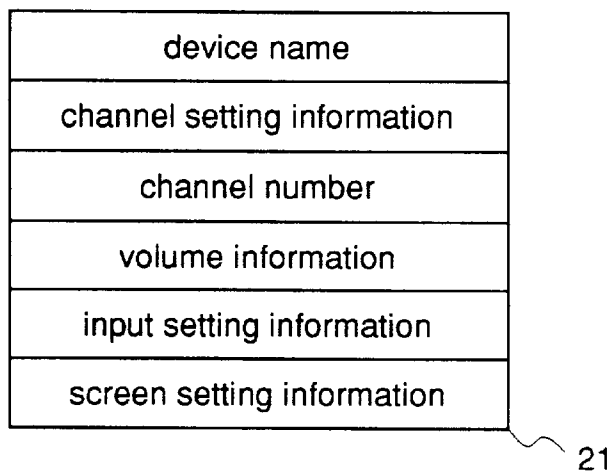


Fig.3

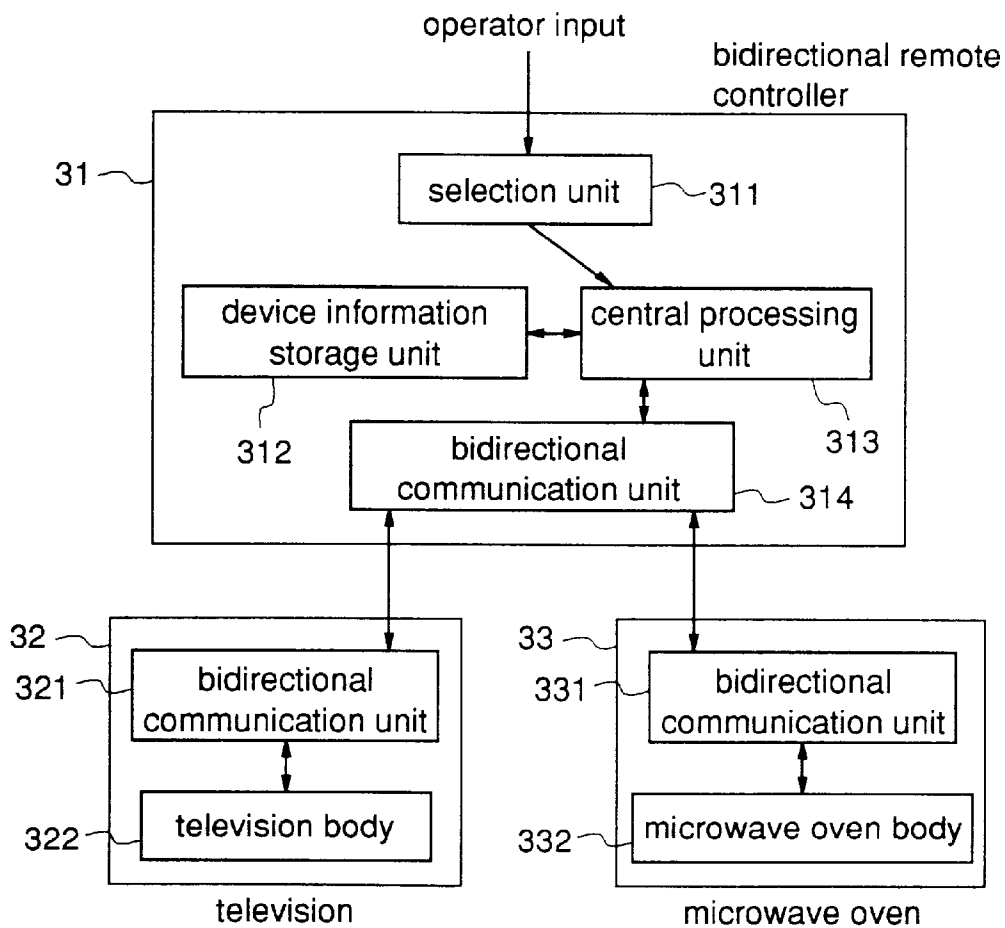


Fig.4

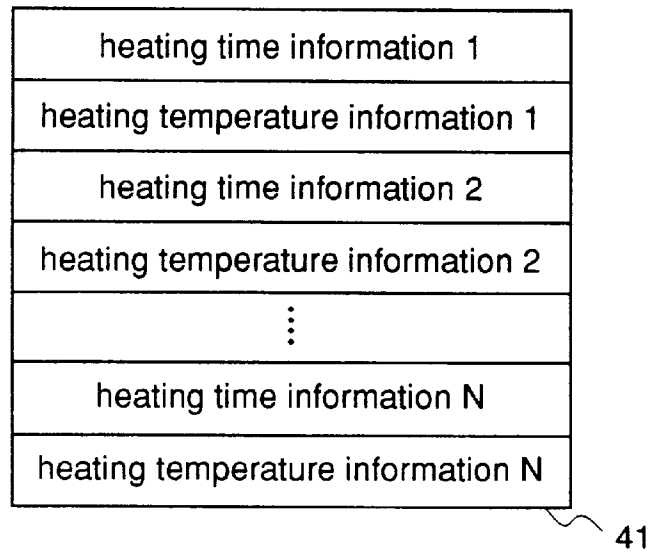


Fig.5

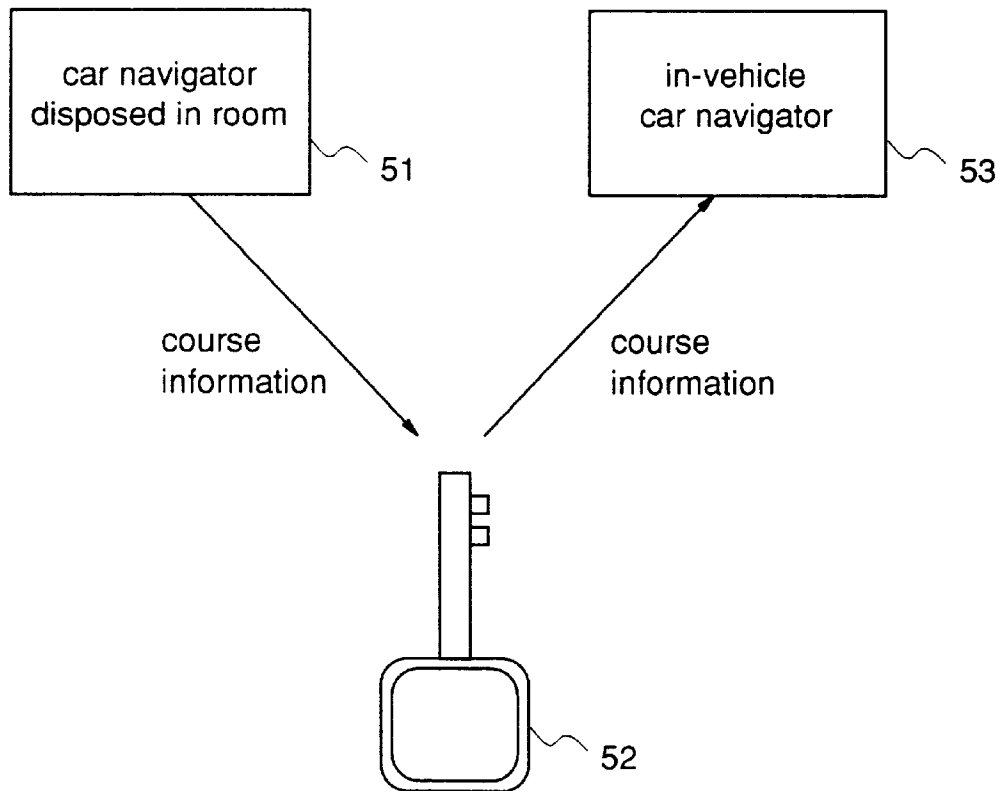


Fig.6

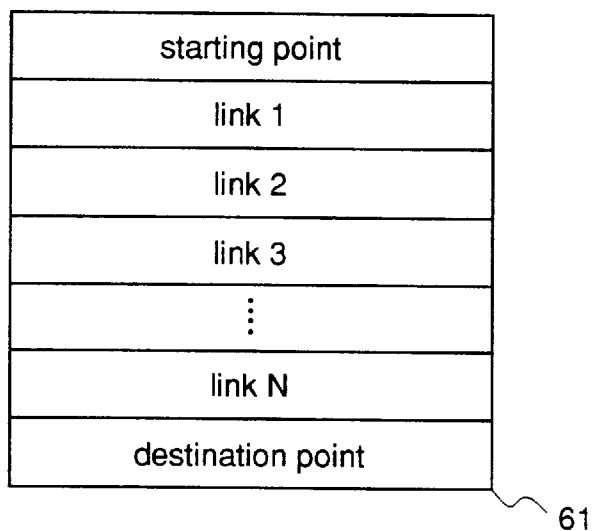
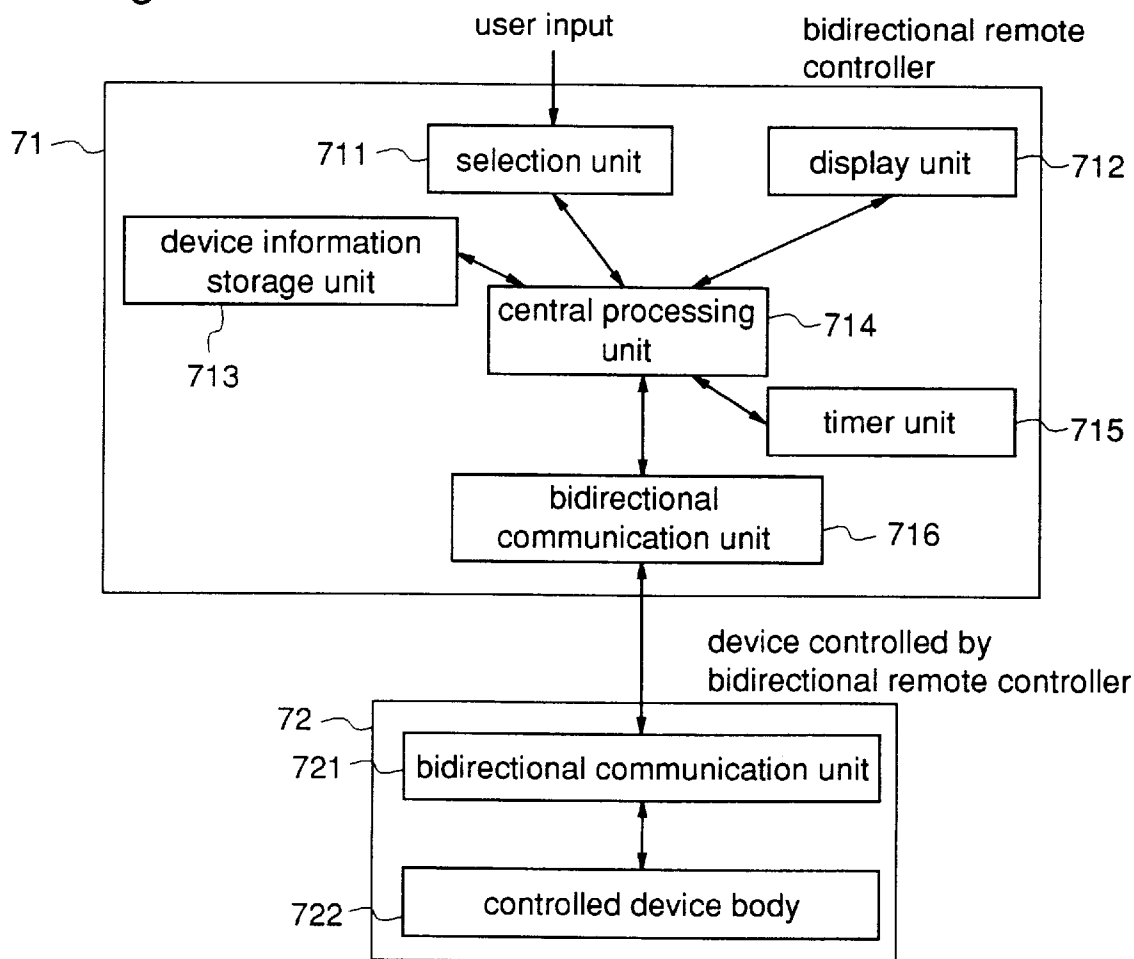


Fig.7



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