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**Kates**

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(54) **PROGRAMMED WIRELESS SENSOR SYSTEM**

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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.**  
**G08B 19/00** (2006.01)  
**G08B 1/08** (2006.01)

(52) **U.S. Cl.** ..... **340/521**; 340/539.19; 340/825.36;  
340/825.49; 340/825.69

(58) **Field of Classification Search** ..... 340/521,  
340/539.19, 539.16, 539.17, 539.18, 539.14  
See application file for complete search history.

(57) **ABSTRACT**

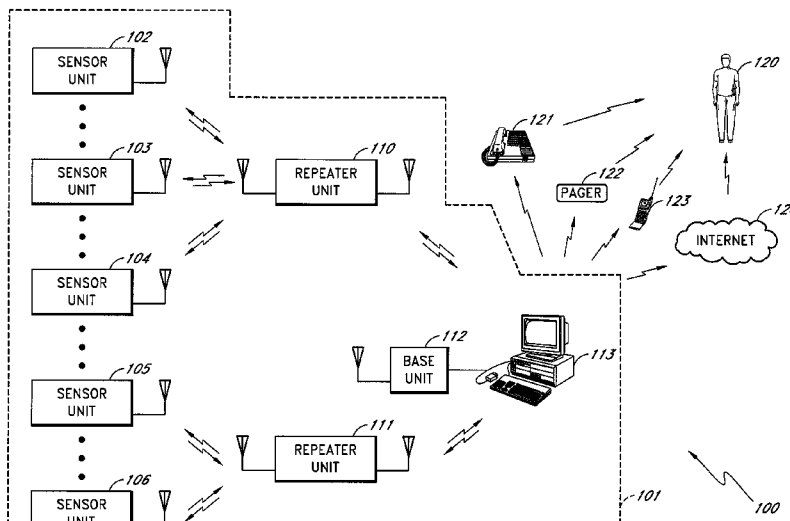
A low cost, robust, wireless sensor system that provides an extended period of operability without maintenance is described. The system includes one or more intelligent sensor units and a base unit that can communicate with a large number of sensors. When one or more of the sensors detects an anomalous condition (e.g., smoke, fire, water, etc.) the sensor communicates with the base unit and provides data regarding the anomalous condition. The base unit can contact a supervisor or other responsible person by a plurality of techniques, such as, telephone, pager, cellular telephone, Internet, etc. In one embodiment, one or more wireless repeaters are used between the sensors and the base unit to extend the range of the system and to allow the base unit to communicate with a larger number of sensors. In one embodiment, each sensor is labeled according to its intended location, and system configuration data containing the sensor identification codes and corresponding sensor locations is provided to the user.

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**30 Claims, 9 Drawing Sheets**



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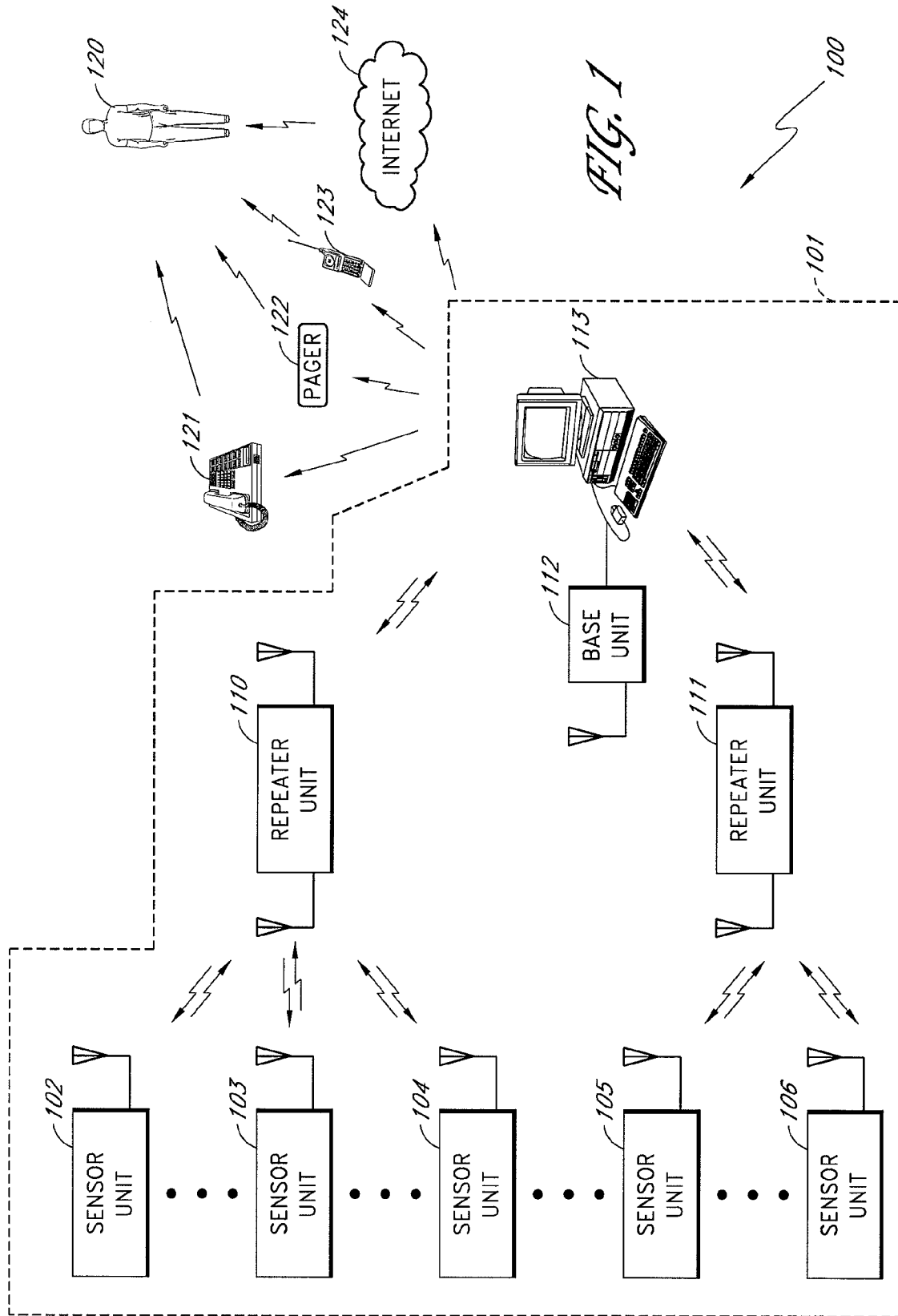
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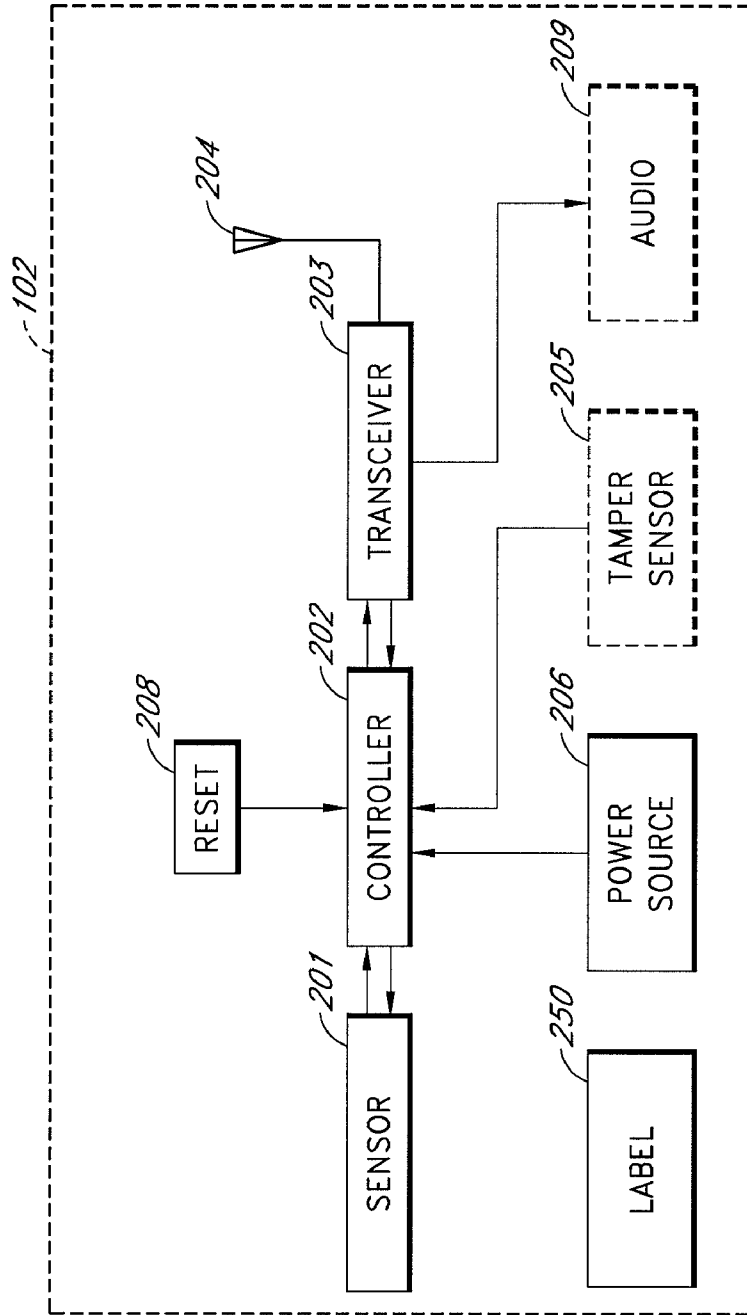
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SENSOR UNIT

FIG. 2

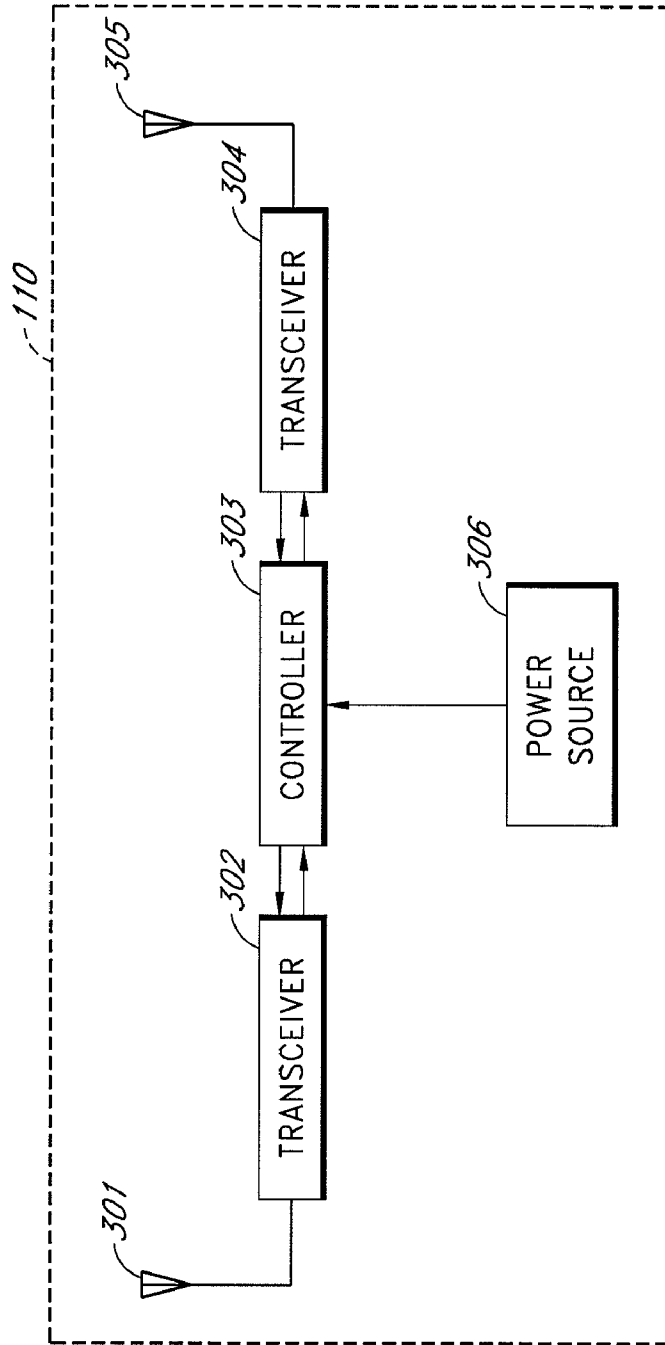


FIG. 3

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