

(12) **United States Patent**  
**Barr**

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(54) **GUIDANCE SYSTEM FOR  
RADIO-CONTROLLED AIRCRAFT**

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patent is extended or adjusted under 35  
U.S.C. 154(b) by 774 days.

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(51) **Int. Cl.**  
**B64C 13/18** (2006.01)

(52) **U.S. Cl.** ..... **244/190**

(58) **Field of Classification Search** ..... 244/189,  
244/190, 17.13; 701/2  
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

3,141,634 A \* 7/1964 Rhoads et al.  
3,154,266 A \* 10/1964 Sheppard et al.  
4,038,590 A 7/1977 Knowlton  
4,206,411 A 6/1980 Meyer  
4,522,072 A 6/1985 Sulouff et al.  
4,725,956 A \* 2/1988 Jenkins  
4,821,572 A 4/1989 Hulsing, II  
4,964,598 A 10/1990 Berejik et al.  
5,058,824 A 10/1991 Cycon et al.  
5,067,674 A 11/1991 Heyche et al.  
5,195,920 A 3/1993 Collier

5,249,272 A 9/1993 Stern  
5,329,213 A 7/1994 Orton et al.  
5,407,149 A 4/1995 Singhai  
5,425,750 A 6/1995 Moberg  
H1469 H 8/1995 Simonoff  
5,452,901 A 9/1995 Nakada et al.  
5,507,455 A 4/1996 Yang  
5,577,154 A 11/1996 Orton  
5,672,086 A 9/1997 Dixon  
5,730,394 A \* 3/1998 Cotton et al.  
5,785,281 A 7/1998 Peter et al.  
5,789,677 A 8/1998 McEachern  
5,904,724 A \* 5/1999 Margolin

**FOREIGN PATENT DOCUMENTS**

DE 196 14 987 A1 4/1996  
JP 2000-5451 11/2000  
WO WO 94/08847 4/1994

\* cited by examiner

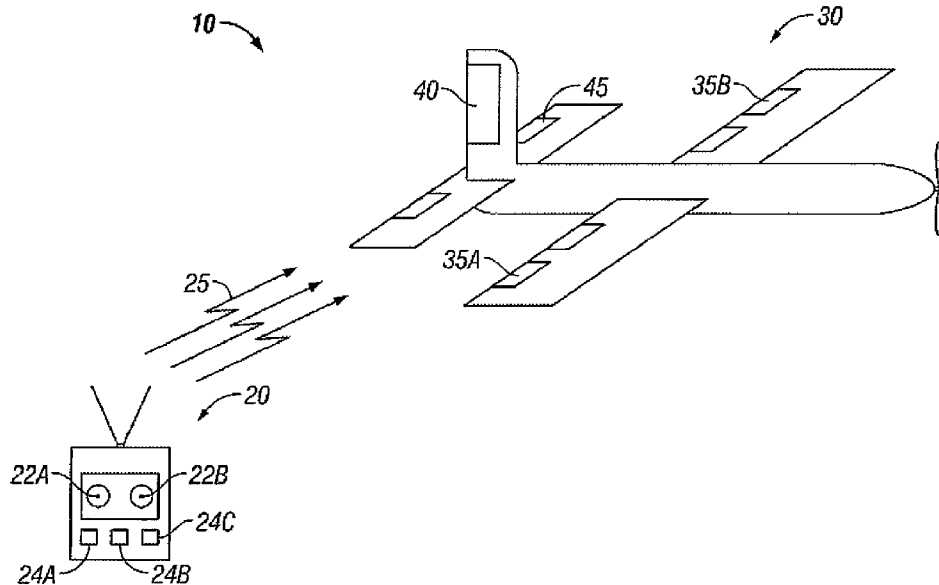
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(57) **ABSTRACT**

A method and system are described for controlling the flight pattern of a remote controlled aircraft. The system includes a microcontroller that is linked to an accelerometer for determining the attitude of the aircraft and modifying signals to the aircraft's flight control system in order to prevent a crash. In addition, several preset flight patterns are stored in a memory so that upon activation, the aircraft will enter a preset flight pattern.

**23 Claims, 6 Drawing Sheets**



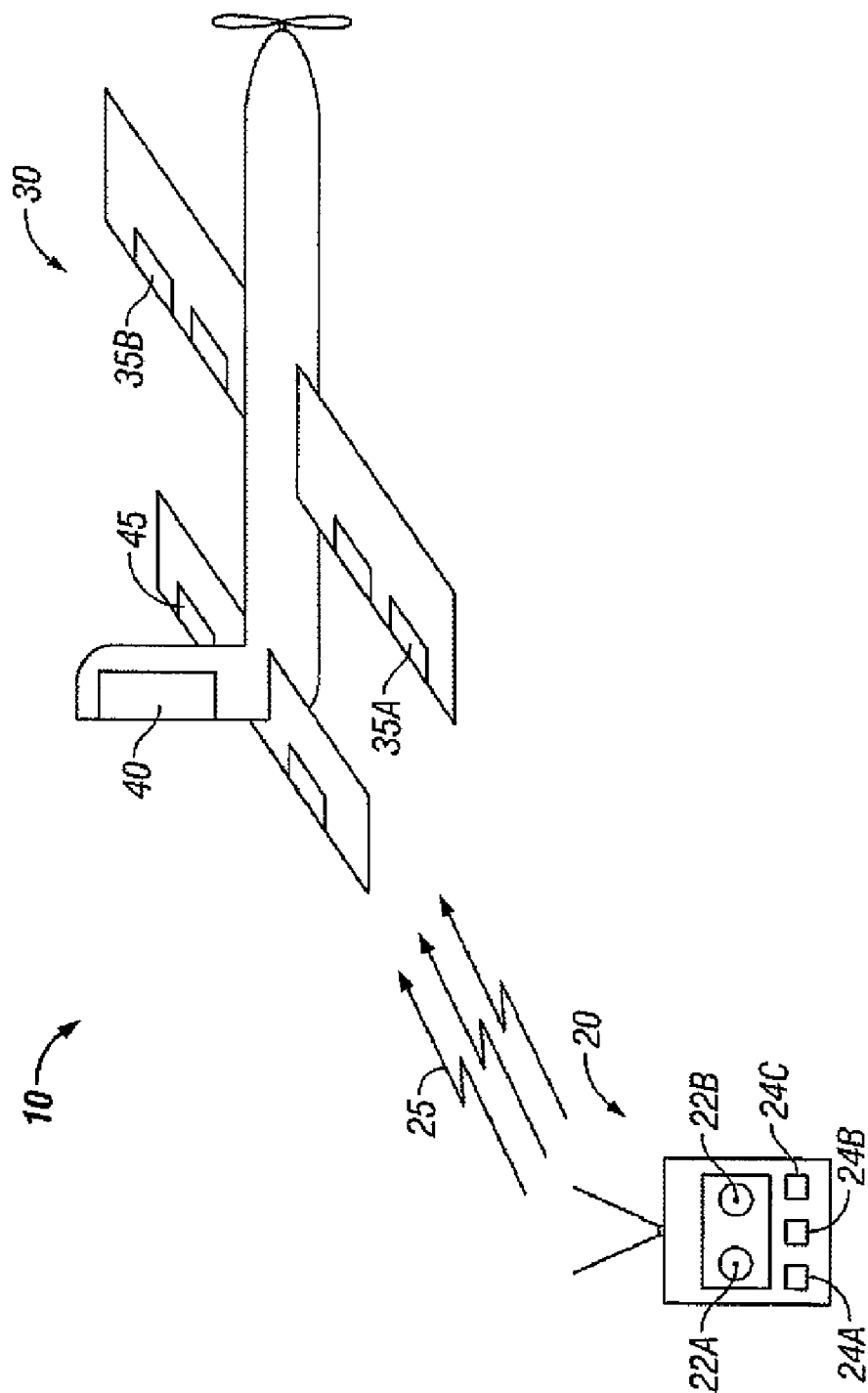


FIG. 1

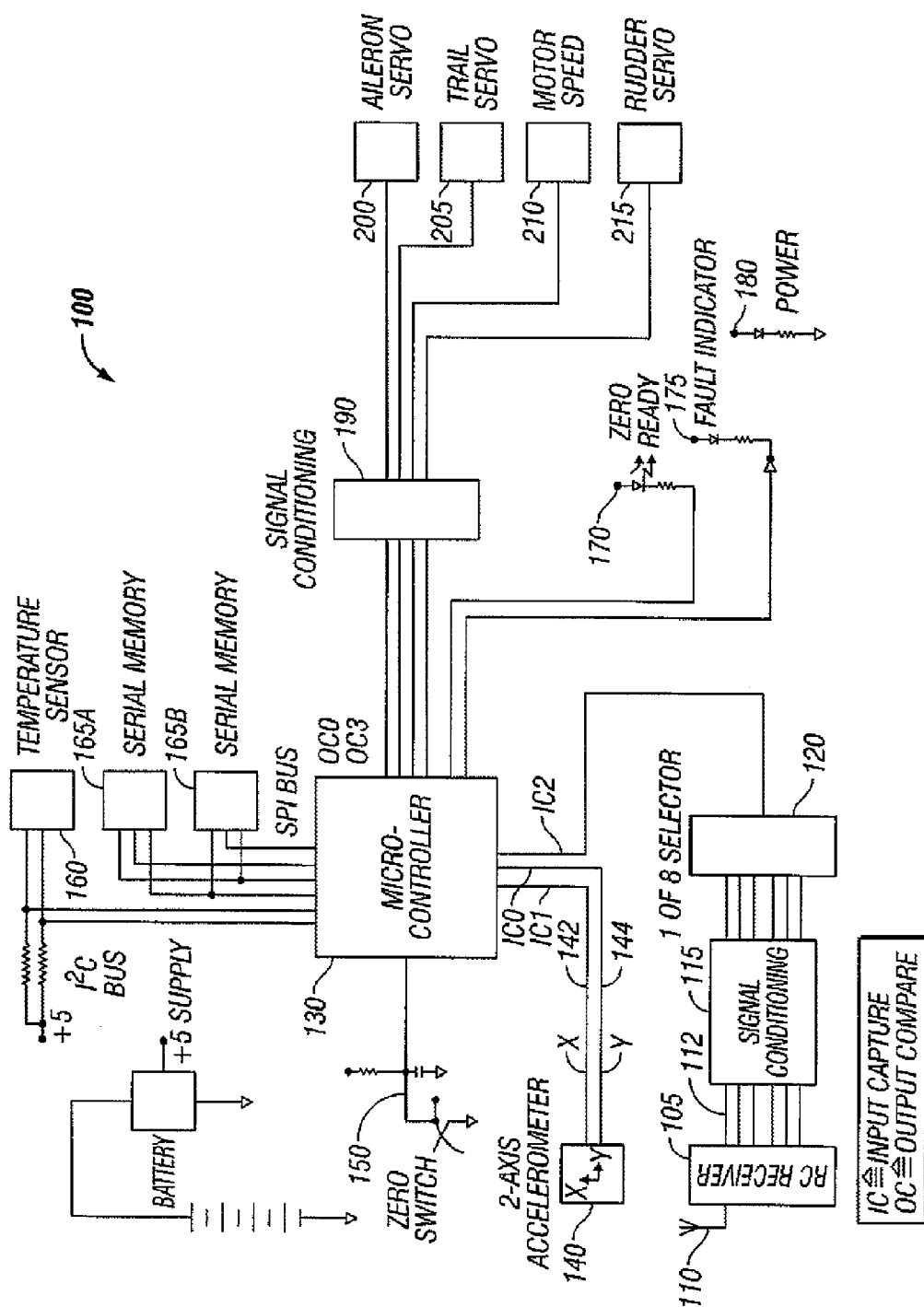
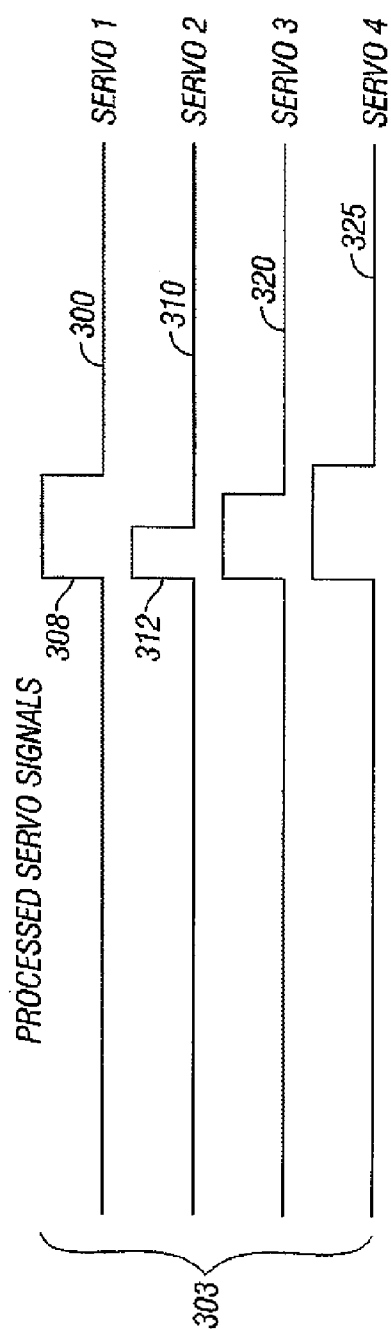
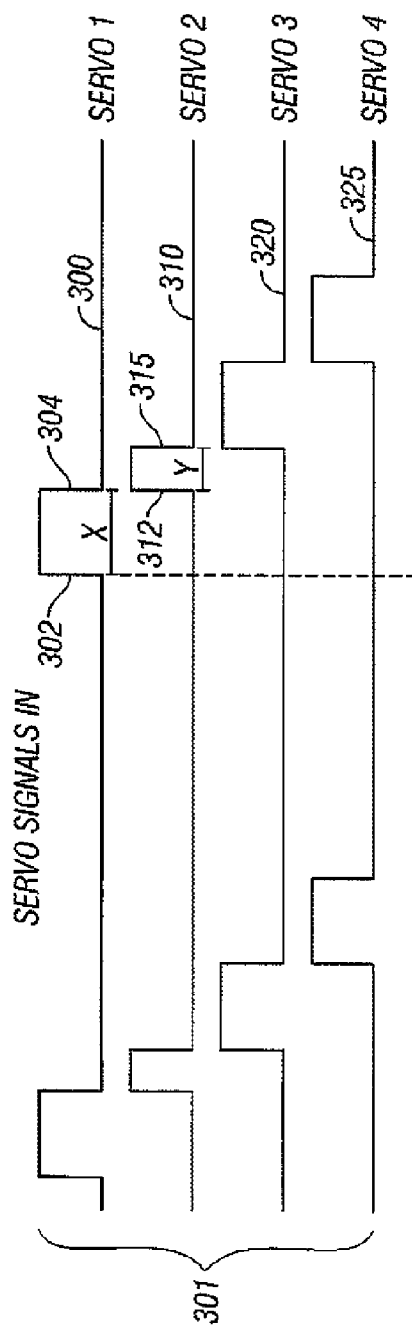


FIG. 2



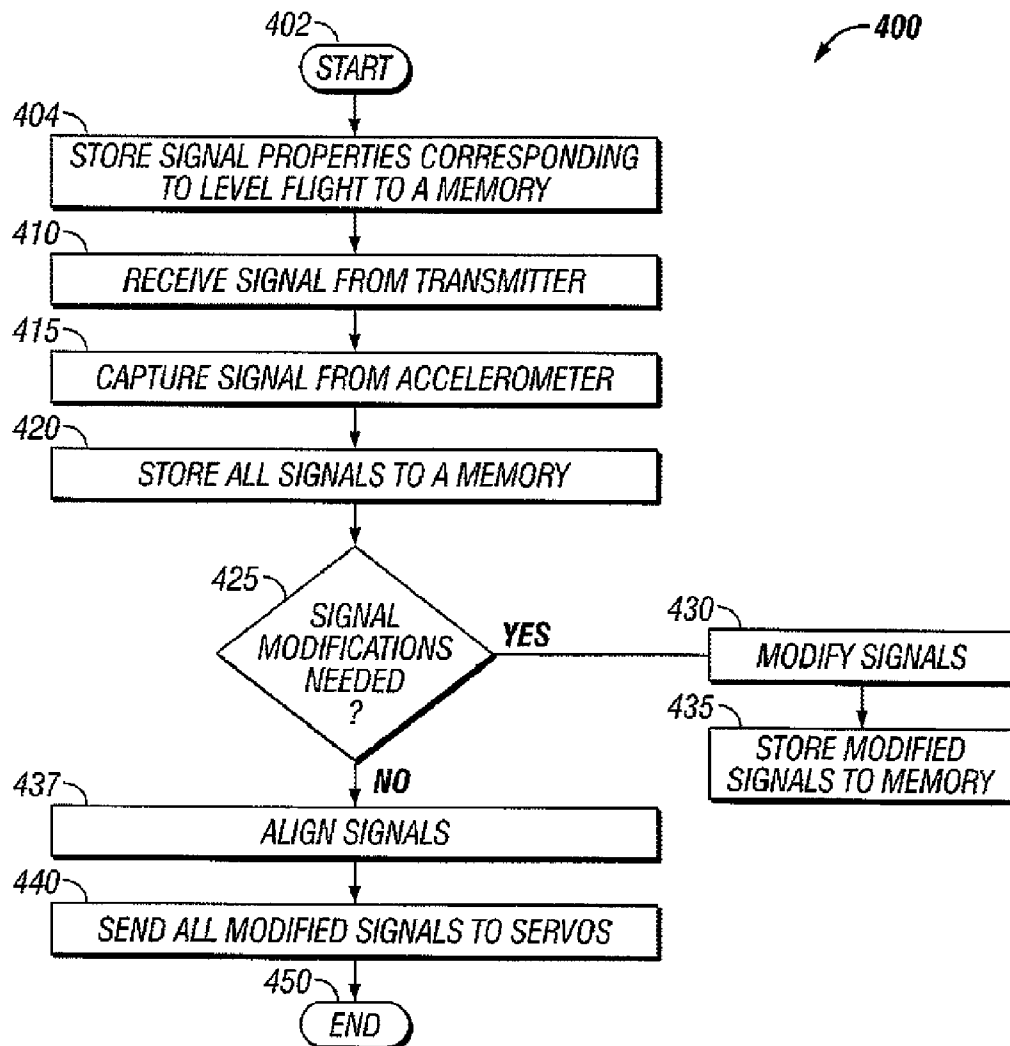


FIG. 4



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