



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

(10) **Patent No.:** **US 6,271,748 B1**
(45) **Date of Patent:** **Aug. 7, 2001**

(54) **TYRE CONDITION MONITORING SYSTEM**

(76) Inventors: **Andrew John Derbyshire**, 12 Poplar Avenue, New Mills, Stockport, Cheshire, SK12 4HR; **Jeremy Francis Siddons**, 70 Nunsfield Road, Buxton, Derbyshire, SK17 7BN; **John Kitto Richards**, 3 Brierly Park, Buxworth, Whaley Bridge, Derbyshire SK12 7NW; **Edward Charles Gibson**, 40 Almond Place, Brimington, Chesterfield, S43 1AG; **Sean Patrick Davies**, Palace Court, Flat 3, 9 Scarsdale Place, Buxton, Derbyshire, SK17 6EF, all of (GB)

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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.

- (21) Appl. No.: **08/793,586**
- (22) PCT Filed: **Aug. 31, 1995**
- (86) PCT No.: **PCT/GB95/02060**
§ 371 Date: **Oct. 20, 1997**
§ 102(e) Date: **Oct. 20, 1997**
- (87) PCT Pub. No.: **WO96/06747**
PCT Pub. Date: **Mar. 7, 1996**
(Under 37 CFR 1.47)

(30) **Foreign Application Priority Data**

Aug. 31, 1994	(GB)	9417519
Mar. 13, 1995	(GB)	9505016
Jun. 2, 1995	(GB)	9511182

- (51) **Int. Cl.⁷** **B60C 23/00; B60C 23/02**
- (52) **U.S. Cl.** **340/442; 340/447; 73/146.5**
- (58) **Field of Search** **340/442, 447, 340/445, 444; 73/146.5, 146.3, 146.4; 200/61.22**

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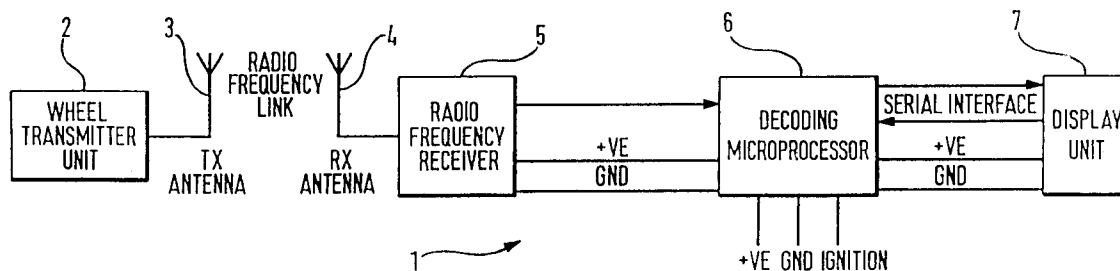
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Primary Examiner—Daniel J. Wu
Assistant Examiner—John Tweel, Jr.
(74) *Attorney, Agent, or Firm*—Sterne, Kessler, Goldstein & Fox, P.L.L.C.

(57) **ABSTRACT**

A tyre condition monitoring system comprises a wheel transmitter unit for each wheel of a vehicle. The transmitter unit is mountable in the wheel and has sensors for sensing pressure and temperature in and rotation of the wheel. Signals from the sensors are processed by a processor to produce data which is transmitted via a radio frequency transmitter. The data is transmitted with the data representing a unit identity code. Transmitted data is received by a receiver unit where it is analyzed to determine the condition of the tyre. The receiver unit includes a user operable input for setting threshold limits for the temperature and/or pressure such that if a threshold is passed an alarm is sounded. Each wheel transmitter unit includes a power supply and is arranged so that power is only applied during the sensing and transmission of data. Intervals between transmissions of data can be varied depending on whether rotation of the wheel has been sensed.

24 Claims, 17 Drawing Sheets



SCHRADER
EXH. 1003

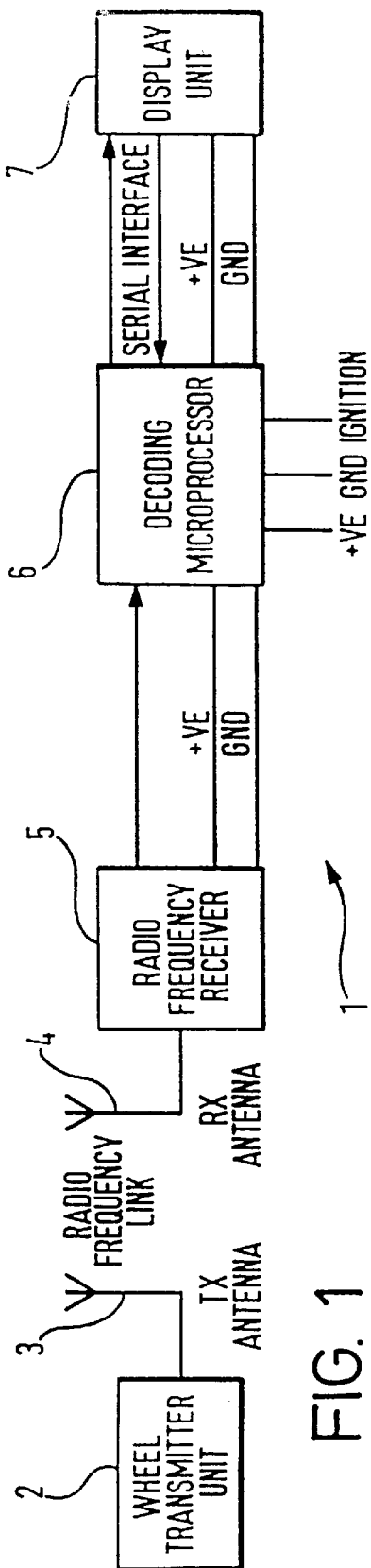


FIG. 1

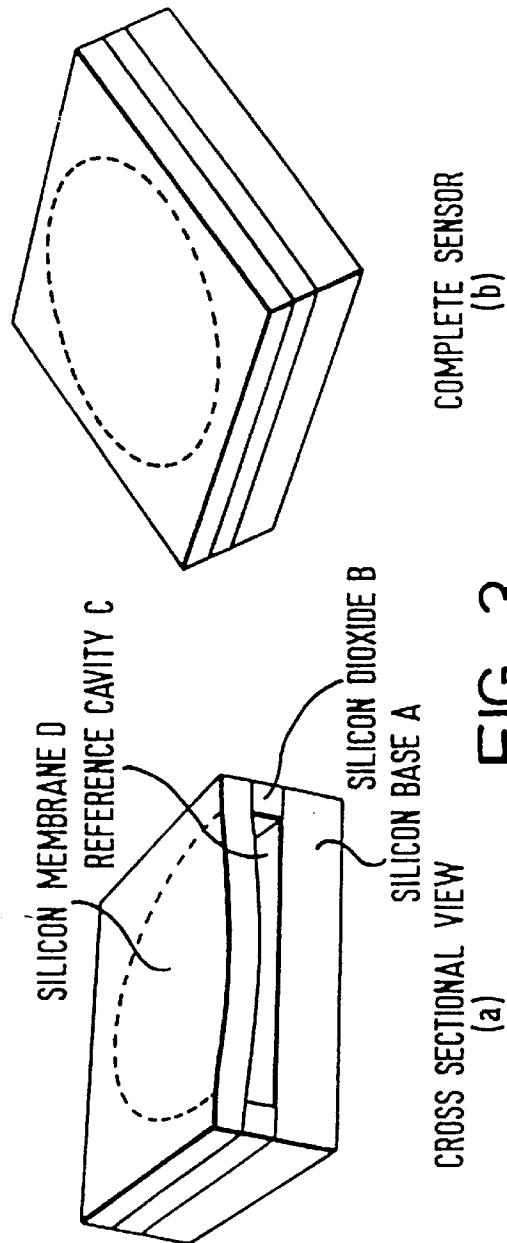


FIG. 3

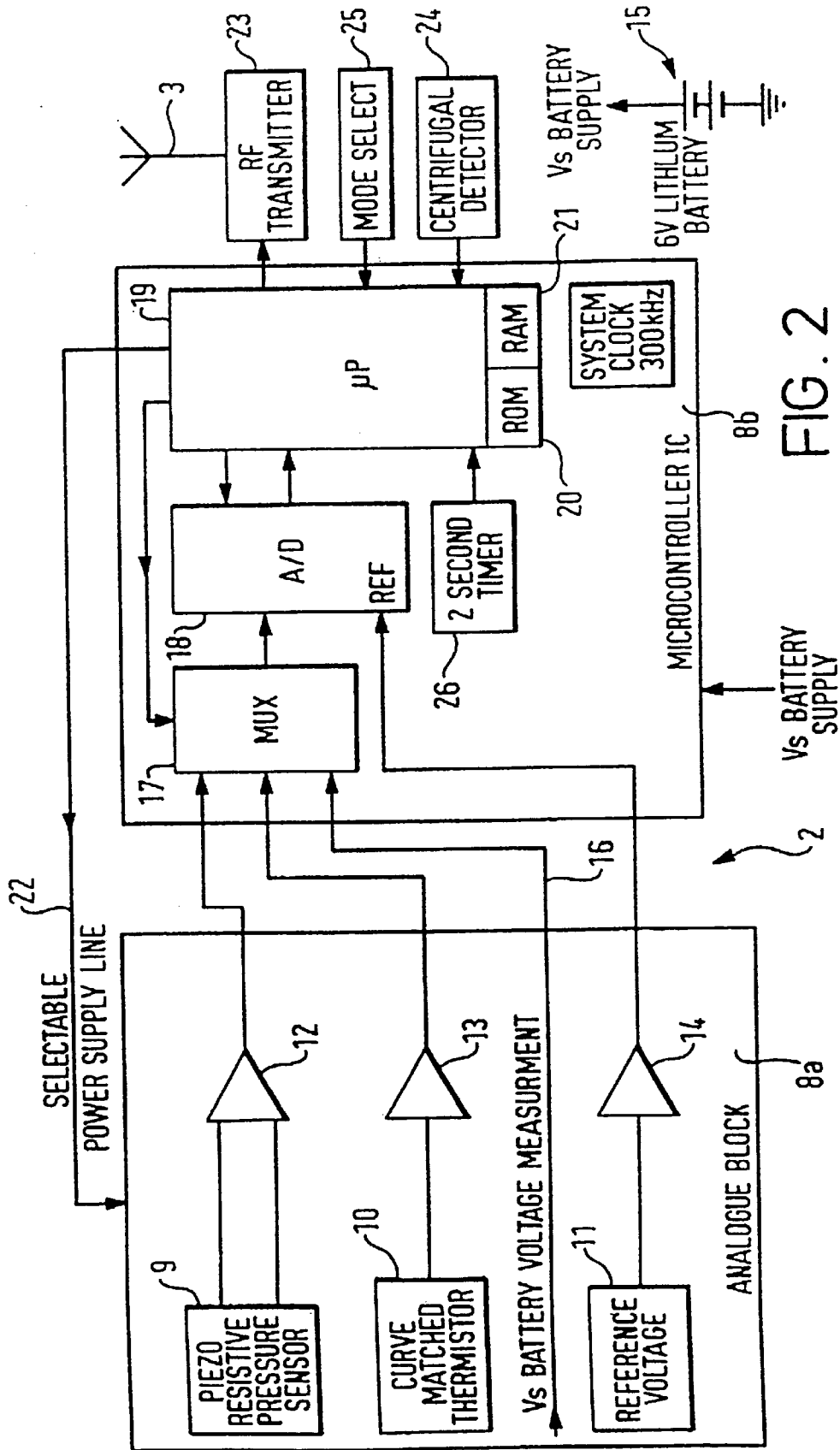
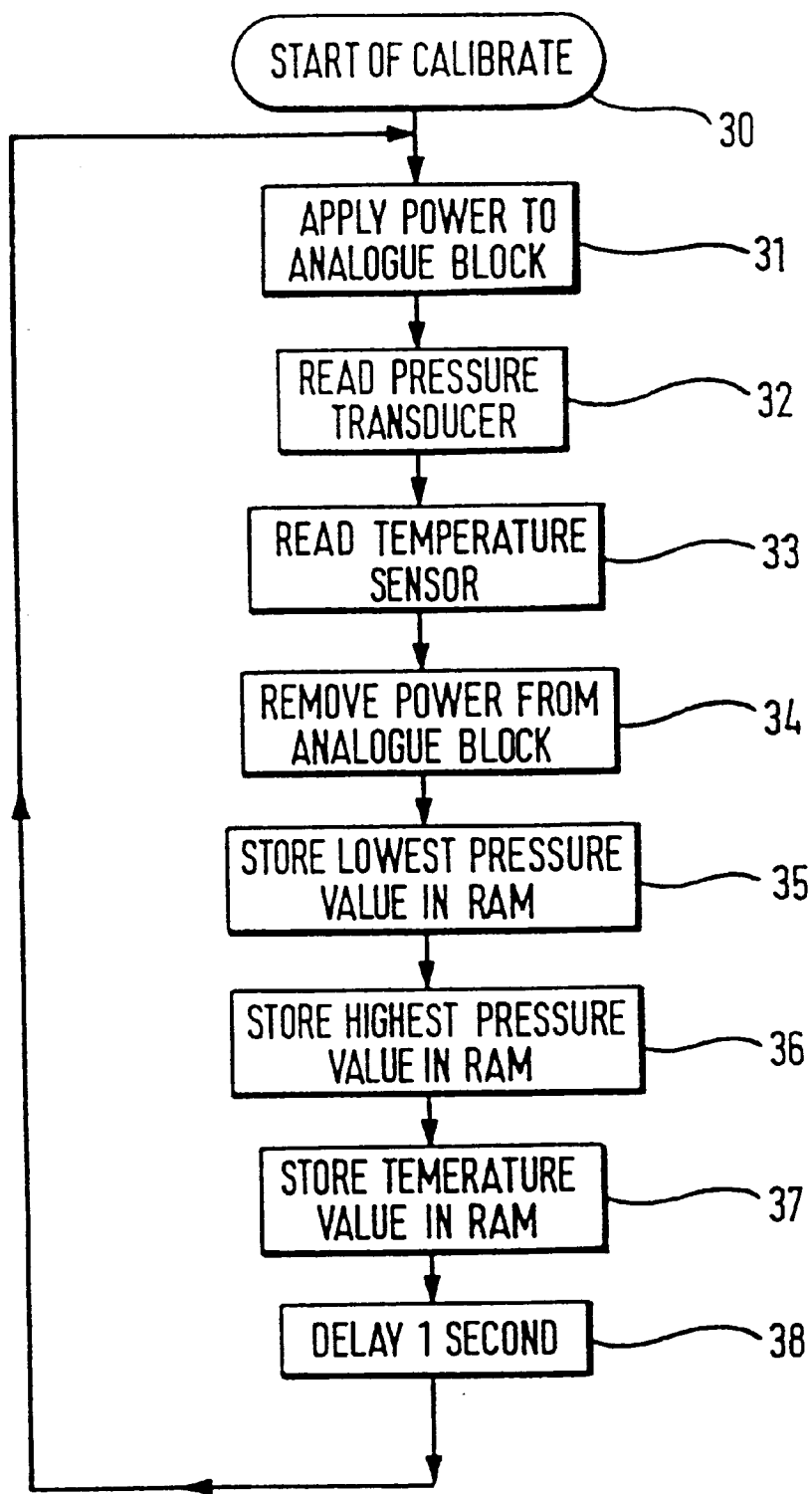


FIG. 2

FIG. 4



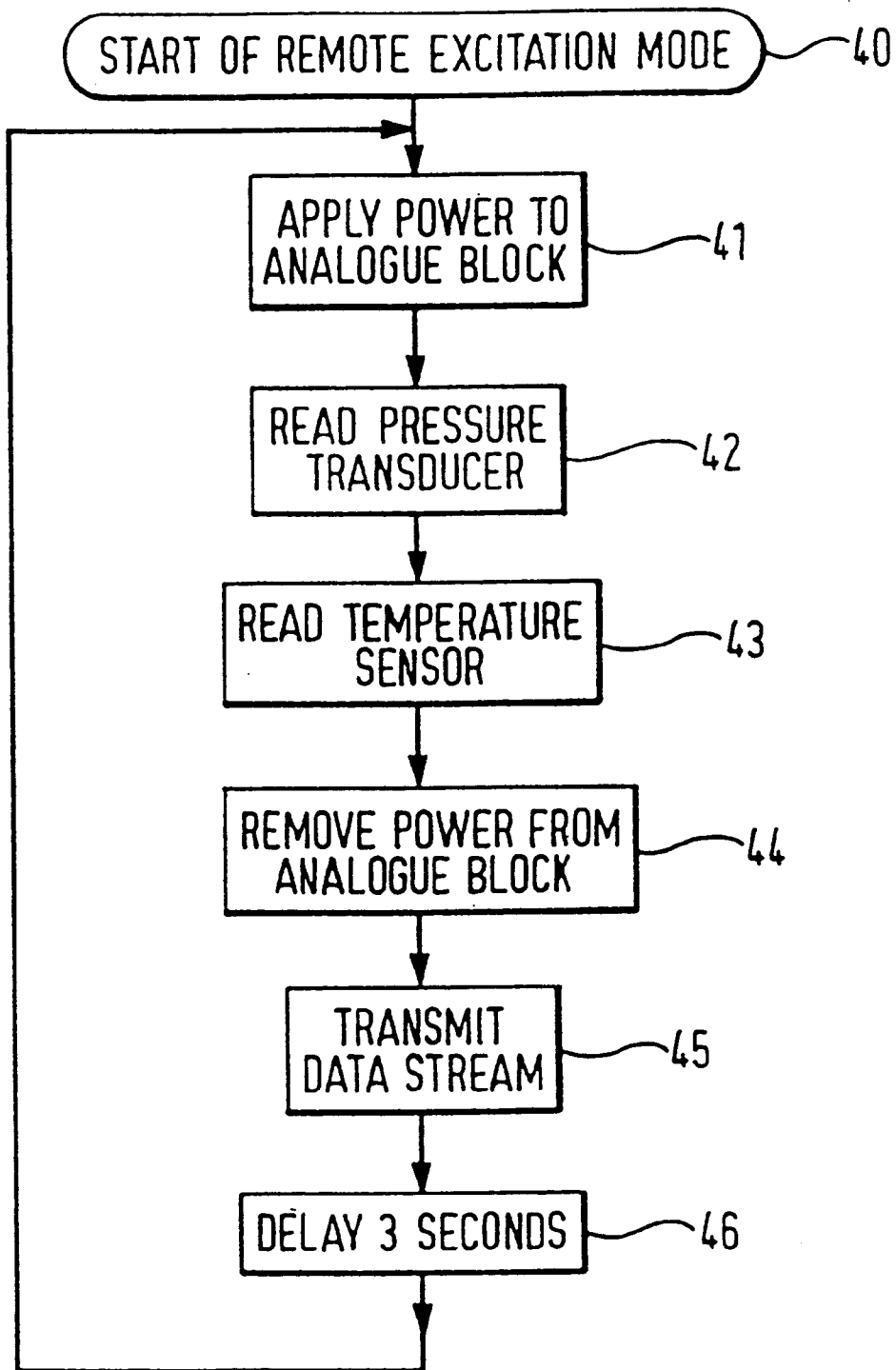


FIG. 5

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