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(12) **United States Patent**
Usui

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(54) **POSITION DETECTION APPARATUS USED FOR A MOBILE OBJECT**

5,317,321 A * 5/1994 Sass 342/357.08
5,442,805 A * 8/1995 Sagers et al. 342/457
5,689,269 A * 11/1997 Norris 342/357.08

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FOREIGN PATENT DOCUMENTS

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WO WO 93/01576 * 1/1993

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

* cited by examiner

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(21) Appl. No.: **08/681,374**

(57) **ABSTRACT**

(22) Filed: **Jul. 23, 1996**

A position detection apparatus can accurately detect user's own position and other user's position. The position detection apparatus includes a position detecting means (1) for detecting user's own position, a memory means (2) for storing therein map information, a transmitting-receiving means (4) for transmitting user's own identification data and user's own position information from the position detecting means (1) and receiving other user's identification data and other user's position information and a display means (3) supplied with user's own position information from the position detecting means (1), other user's position information from the transmitting-receiving means (4) and the map information from the memory means (2) and displaying a map on which marks indicating user's or other user's position or user's own and other user's positions are put.

(30) **Foreign Application Priority Data**

Aug. 2, 1995 (JP) 7-197739

(51) **Int. Cl.⁷** **G01S 5/14**

(52) **U.S. Cl.** **342/357.09; 342/455; 701/208**

(58) **Field of Search** 342/375.06, 357.07, 342/357.08, 357.09, 357.1, 357.13, 455, 457; 701/208

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,835,537 A * 5/1989 Manion 342/30
5,025,261 A * 6/1991 Ohta et al. 342/357.07
5,153,836 A * 10/1992 Fraughton et al. 701/301

7 Claims, 6 Drawing Sheets

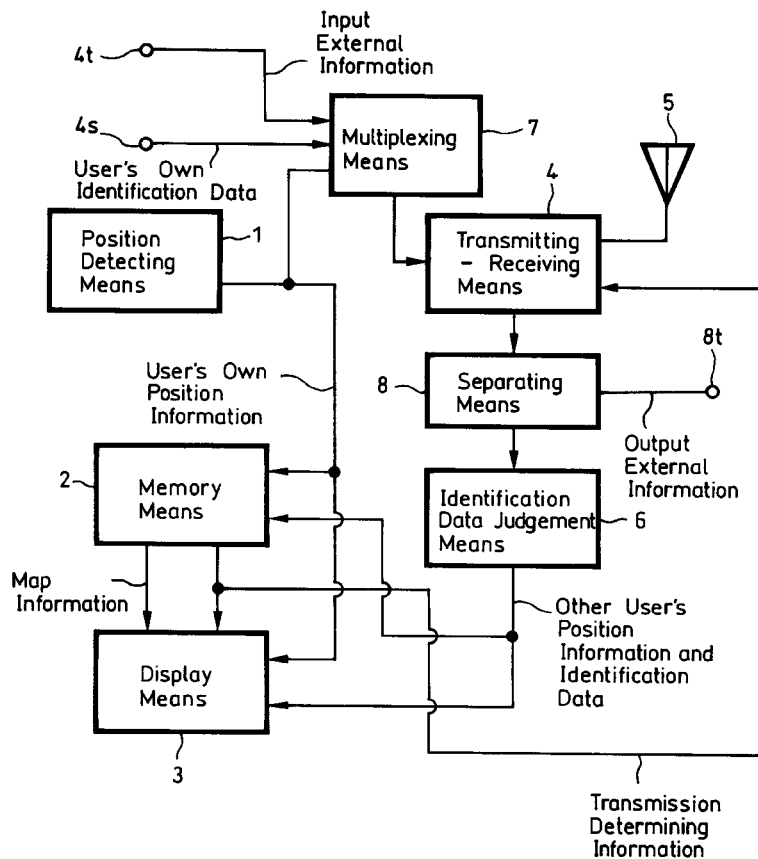


FIG. 1 (PRIOR ART)

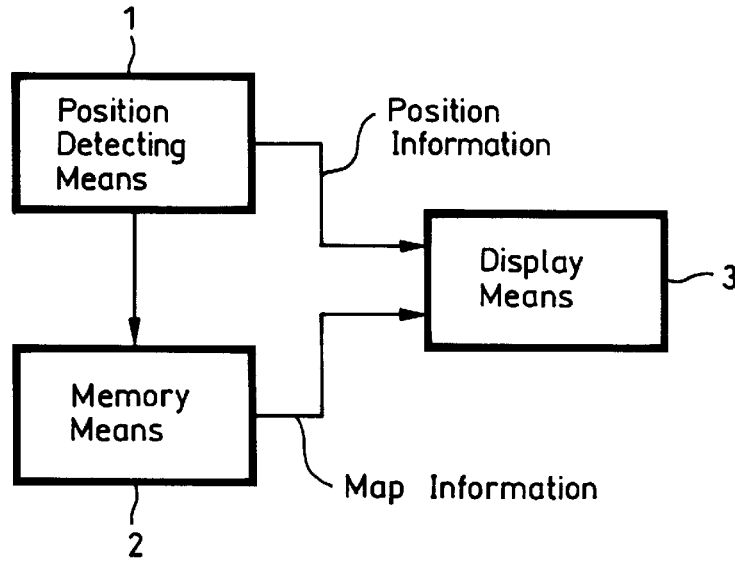


FIG. 2

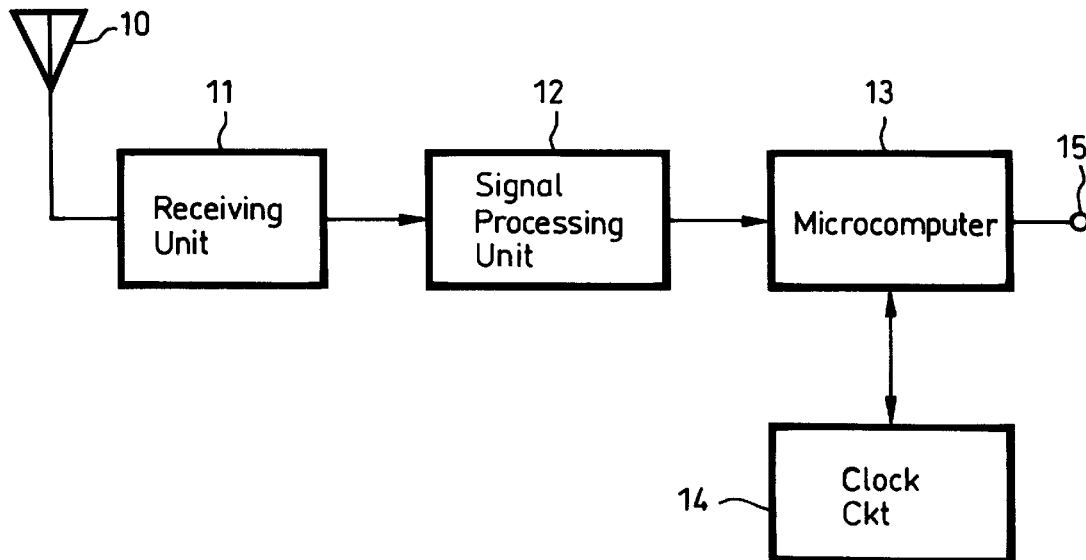


FIG. 3

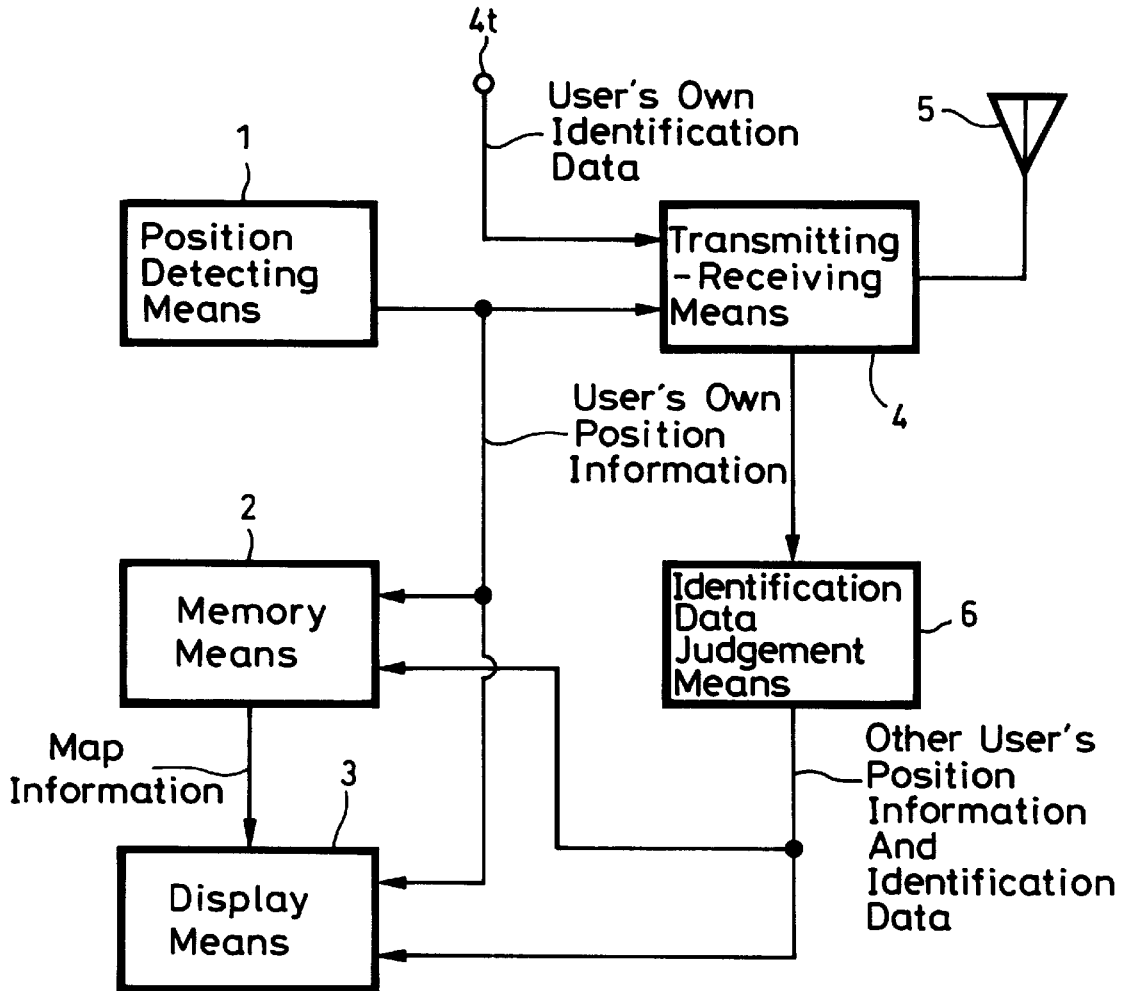


FIG. 4

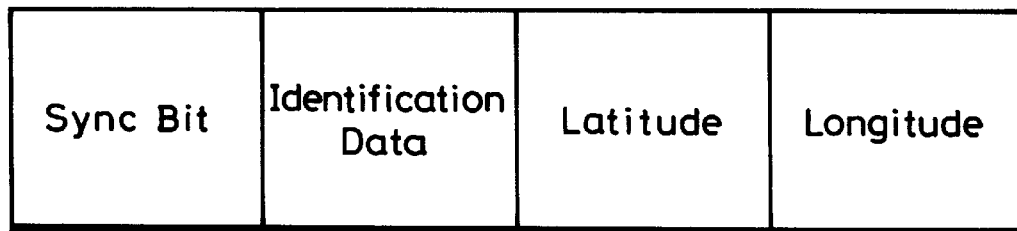


FIG. 5

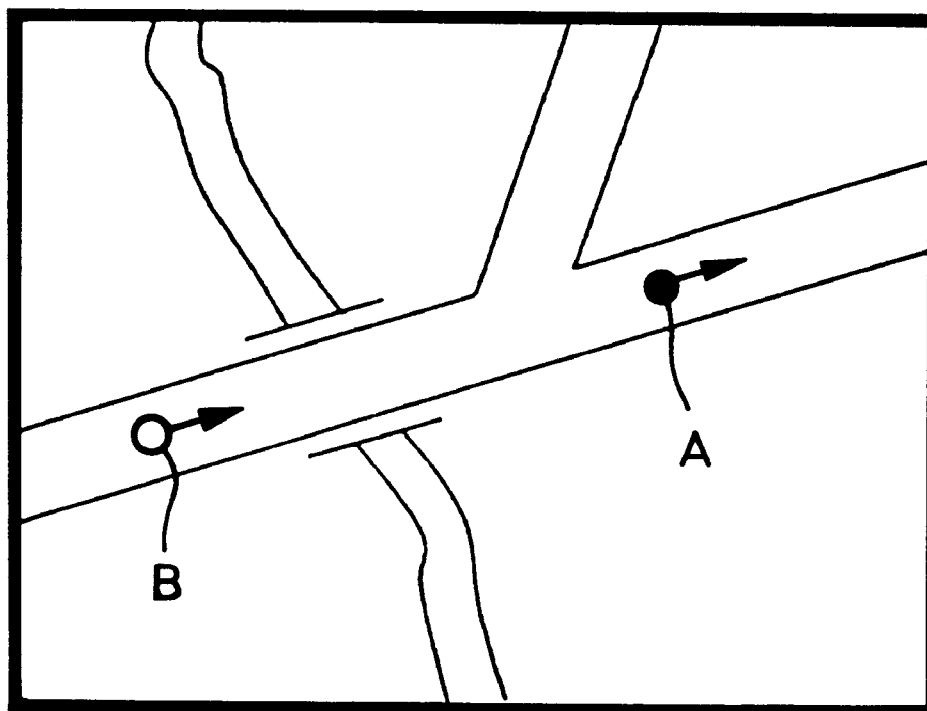
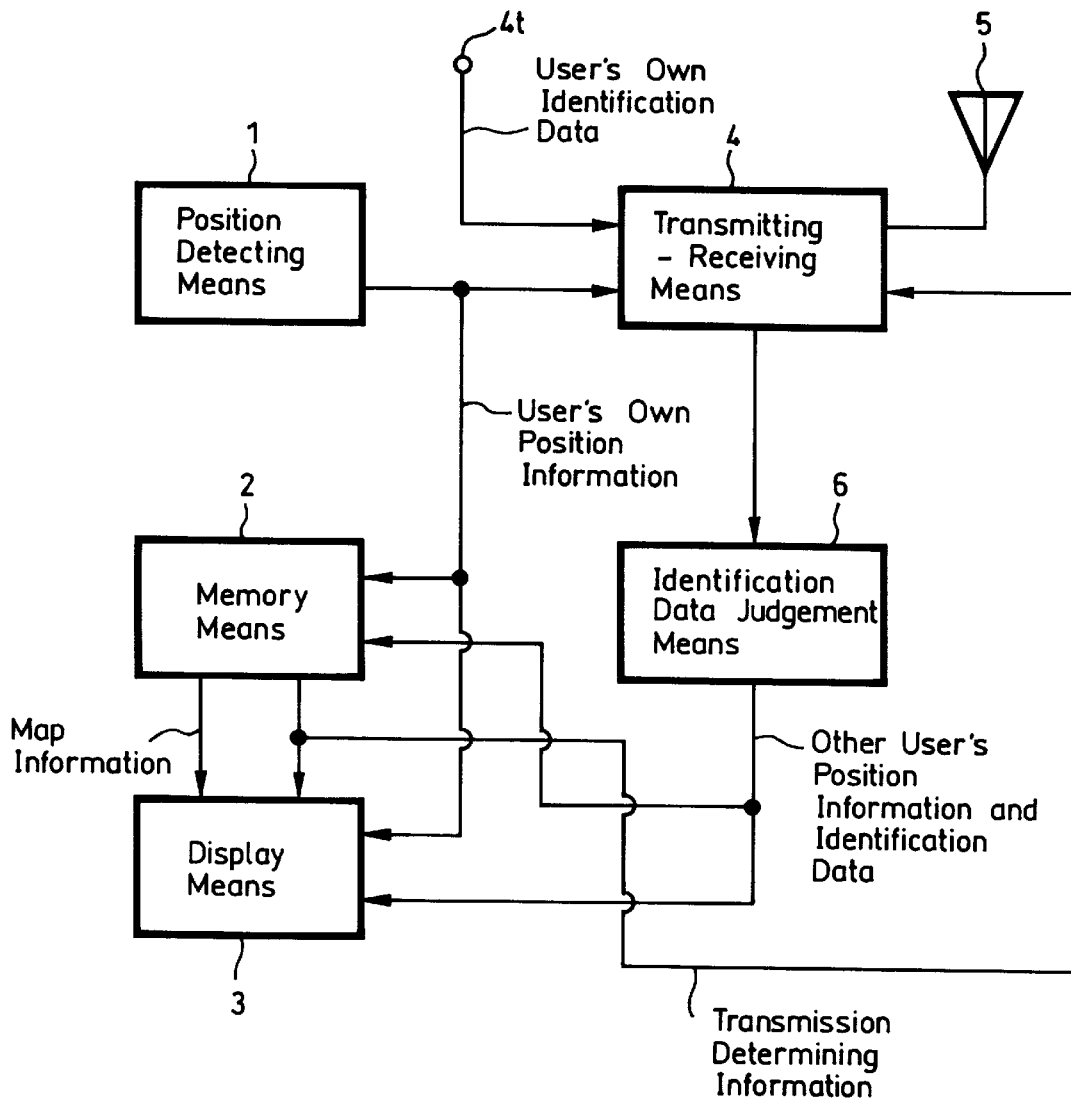


FIG. 6



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