

## Abstract

A position estimating section 115 outputs an estimated position (X,Y), which allows a position where a vehicle is traveling to be estimated, based on information from a GPS receiver 111, an acceleration sensor 112, a vehicle speed sensor 113, and a gyro 114. A map matching section 116 carries out map matching by reference to road information stored in a storage section 117, and outputs a map matched position (mX,mY). A buffering modification section 200 determines, based on routes (R) and nodes (J) of the road information, whether the route where the map matched position (mX,mY) is located is correct or not. If the route is erroneously judged, the buffering modification section 200 makes a modification for replacing positional data on the map matched position (mX,mY) located on the erroneously judged route by positional information on the node (J) located at the entrance to the newest route. By so doing, the traveling route can be detected accurately.