Location system for movable robots and autonomous vehicles comprises two subsystems, of which one is located on the ground and the other is on robot board

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Abstract: NOVELTY - The invention relates to a location system for movable robots and autonomous vehicles, based on ultrasonic active beacons. According to the invention, the system comprises two subsystems, of which one is located on the ground and the other is on robot board. The system (1) on the ground consists of a minimum number of two ultrasonic active beacons (12, 13) and a sequence making device (11) which activates the beacons, so that a single one is in emission at a given moment, the subsystem (2) extant on the robot board comprises two sensors (21, 22) which catch the signal emitted by the beacons (12, 13), a unit (24) for measuring the sound signal propagation time and a unit (25) for identifying the beacon based on an item of information contained in the signals emitted by the beacons, the absolute robot orientation being measured with a gyrocompass, or an electronic compass (23). Knowing the spatial coordinates of the beacons (12, 13), the relative orientation thereof in relation to the robot, as well as the absolute orientation of the robot, a microcontroller (26) calculates the current coordinates of the robot.

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