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Abstract

Positioning Methods and Systems for UWB Devices

A positioning system is proposed incorporating a UWB transceiver and a UWB reference device. The UWB reference device generates UWB response pulses in response to UWB pulses received from the transceiver. The transceiver includes multiple antennas, splayed out to collectively cover a two-dimensional 360° angular range. Circuitry determines the amplitudes of respective signals received by the antennas from the UWB reference in response to UWB pulse(s) transmitted from the transceiver. In this way, the UWB transceiver is able to obtain the range of the reference, and the angular position of the reference device within the range. In one form of the proposal there is exactly one reference device, while in other forms there may be at least two reference devices. The UWB pulses may encode information to be transmitted between the transceiver and reference(s). The reference device may be either a passive reflector or an active responder.

[Fig. 2]