As described above, a base station may be regarded as the positioning target. As indicated in Fig. 9, the position of the base station 20a whose position is unknown may be calculated based on the position of each base station 20 of the plurality of base stations and the relative angle between each base station 20 and the base station 20a.

[0067] <Variation 3>

In this embodiment, the functions of the relative angle acquisition unit 110, the provisional position calculation unit 120, the weight calculation unit 130, and the device position calculation unit 140 are realized by software. As a variation, the functions of the relative angle acquisition unit 110, the provisional position calculation unit 120, the weight calculation unit 130, and the device position calculation unit 140 may be realized by hardware.

Specifically, the positioning system 100 includes an electronic circuit 909 in place of the processor 910.

[0068] Fig. 10 is a diagram illustrating a configuration of the positioning system 100 according to Variation 3 of this embodiment.

The electronic circuit 909 is a dedicated electronic circuit that realizes the functions of the relative angle acquisition unit 110, the provisional position calculation unit 120, the weight calculation unit 130, and the device position calculation unit 140. Specifically, the electronic circuit 909 is a single circuit, a composite circuit, a programmed processor, a parallel-programmed processor, a logic IC, a GA, an ASIC, or an FPGA. GA is an abbreviation for Gate Array. ASIC is an abbreviation for Application Specific Integrated Circuit. FPGA is an abbreviation for Field-Programmable Gate Array.

[0069] The functions of the relative angle acquisition unit 110, the provisional position calculation unit 120, the weight calculation unit 130, and the device position calculation

can realize highly accurate positioning using only angle information by performing weighting such that the influence of a distant base station is reduced.

[0073] In Embodiment 1 above, each unit of the positioning system has been described as an independent functional block. However, the configuration of the positioning system may be different from the configuration in the above embodiment. The functional blocks of the positioning system may be configured in any way, provided that the functions described in the above embodiment can be realized. The positioning system may be a system composed of a plurality of devices instead of one device.

Portions of Embodiment 1 may be implemented in combination. Alternatively, one portion of this embodiment may be implemented. This embodiment may be implemented as a whole or partially in any other combination.

That is, in Embodiment 1 , portions of the embodiment may be freely combined, any constituent element of the embodiment may be modified, or any constituent element may be omitted in the embodiment.

[0074] The embodiment described above is an essentially preferable example and is not intended to limit the scope of the present disclosure, the scope of applications of the present disclosure, and the scope of uses of the present disclosure. The embodiment described above can be modified in various ways as necessary.

Reference Signs List

[0075] 10: communication device; 20, 20a: base station; 31: relative angle; 32: provisional position; 33: weighting coefficient; 34: device position; 100: positioning system; 110: relative angle acquisition unit; 120: provisional position calculation unit; 130: weight calculation unit; 140: device position calculation unit; 150: storage unit; 151: base station information; 909: electronic circuit; 910: processor; 921: memory; 922: auxiliary storage device; 930: input interface; 940: output interface; 950: