orthogonal to one another in the three-dimensional (X-axis, Y-axis and Z-axis) space defined by the vertical direction (V), the normal direction (N) and the horizontal direction (H). Antennas to be combined into the integrated antenna do not have to be limited to the three antennas orthogonal to one another in the three-dimensional space.

Even two antennas orthogonal to each other in the two-dimensional (X-axis and Y-axis) are effective.

[0101] As described above, the terminal station radio device 1203 and the base station radio device 1213 each include the transmitter and the receiver of the radio system (radio communication system) which has antennas capable of transmitting and receiving rotationally polarized waves and which uses rotationally polarized electromagnetic waves.

The terminal station radio device 1203 and the base station radio device 1213, therefore, are capable of performing radio communications between them using the rotationally polarized electromagnetic waves.

In FIG. 13, the substation facility monitoring system 1200 includes multiple substation apparatuses 1201, multiple base station apparatuses 1211, multiple base station rotationally polarized antennas 1212, and multiple base station radio devices 1213.

Only representative ones are denoted by reference sings, while reference signs are omitted from the others having the same configurations.

[0102] The substation apparatuses 1201 each have external dimensions of the order of several meters, which are significantly larger than the wavelengths corresponding to the frequencies of the electromagnetic waves used by the radio devices, which range from several hundred MHz to several GHz. Thus, substation apparatuses 1201 present a multi-path interference environment in which electromagnetic waves are subjected to multiple reflections.

The substation facility monitoring system 1200 according to this (tenth) embodiment employs the radio system (radio communication system) according to any one of the first to eighth embodiments. The substation facility monitoring system 1200, therefore, is capable of