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Morin, Jr. et al.

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[54] **HIGH ACCURACY COORDINATE CONVERSION METHOD FOR AIR TRAFFIC CONTROL APPLICATIONS**

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[52] **U.S. Cl.** **342/451**; 342/180; 342/456; 364/460; 364/514

[58] **Field of Search** 342/176, 178, 180, 450, 342/451, 456; 364/514, 516, 439, 456, 459, 731, 460, 461

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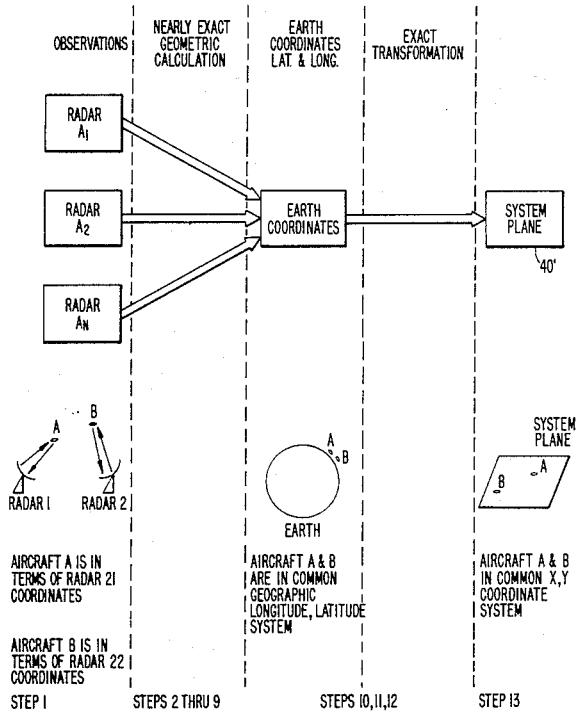
[57] **ABSTRACT**

A computer method is disclosed for accurately transforming multiple radar observations of aircraft into a common coordinate system for air traffic control applications. The method involves a transformation from radar observables of the target slant range, azimuth and altitude to the target position coordinates in a stereographic system plane for display. The method includes a conformal coordinate conversion process from geodetic to conformal spherical coordinates followed by a conformal stereographic projection process onto a system display plane. The resulting display of aircraft position on the system plane is more accurate than has been available in the prior art.

4 Claims, 7 Drawing Sheets