CLAIMS:

1. A direction finder antenna system comprising:

(a) a rotatable platform comprising at least two antenna units positioned on the rotatable platform at selected distance between them;

(b) a motor configured for moving the rotatable platform at a motion pattern;

(c) a control circuit comprising a signal collection circuit configured for receiving data on signal portions collected by said at least two antenna units with respect to different angular positions of said at least two antenna units and generate output data indicative of direction of origin of collected signal;

said control circuit is configured for determining data indicative of phase difference between signal portions collected by said at least two antenna units for different angular positions of said rotatable platform, and for determining magnitude of a relation between phase difference between signal portions collected by said at least two antenna units and angular orientation of said rotatable platform, and provide output data indicative of direction of origins of the collected signal comprising azimuth with respect to a predetermined angular orientation of the rotatable platform within a plane of rotation of said rotatable platform and elevation with respect to said plane.

2. The direction finder antenna system of claim 1, wherein said selected motion pattern comprise complete circular motion at a selected rotation speed.

3. The direction finder antenna system of claim 2, wherein said rotation speed is selected in the range of 50-1000 RPM.

4. The direction finder antenna system of claim 2, wherein said rotation speed is greater than 1000RPM.

5. The direction finder antenna system of claim 2, wherein said rotation speed is lower than 50RPM.

6. The direction finder antenna system of claim 1, wherein said selected motion pattern comprises back-and-forth motion within a selected angular section at a selected motion frequency.

7. The direction finder antenna system of claim 6, wherein said motion frequency is selected in the range of 50-1000 RPM.

8. The direction finder antenna system of claim 6, wherein said motion frequency is greater than 1000RPM.

9. The direction finder antenna system of claim 6, wherein said motion frequency is lower than 50RPM.

10. The direction finder antenna system of any one of claims 1 to 9, wherein speed of movement of the rotatable platform varies within said selected motion pattern.

11. The direction finder antenna system of any one of claims 1 to 10, wherein said at least two antenna units are positioned along a section of rotation circle, not forming a diameter with respect to rotation.

12. The direction finder antenna system of any one of claims 1 to 11, wherein said at least two antenna unit are positioned at equal distances from axis of rotation.

13. The direction finder antenna system of any one of claims 1 to 12, wherein said at least two antenna units are positioned at 180 degrees relative to rotation axis of said rotatable platform.

14. The direction finder antenna unit of any one of claims 1 to 13, wherein said at least two antenna units are positioned at different distance from center of rotation of said rotatable platform.

15. The direction finder antenna system of any one of claims 1 to 14, wherein said at least two antenna units are omnidirectional antenna units.

16. The direction finder antenna system of any one of claims 1 to 15, wherein said at least two antenna unit are mounted on rotatable antenna mounts, said rotatable antenna mounts being rotated at rotation speed equal to rotation speed of said rotatable platform at opposite direction, thereby enabling maintaining headings of the corresponding antenna units.

17. The direction finder antenna system of claim 16, wherein said at least two antenna units are directional antenna units positioned on said rotatable antenna mounts with similar heading.

18. The direction finder antenna system of any one of claims 1 to 17, wherein said control circuit is configured for determining the relation between phase difference between signal portions collected by said at least two antenna units and angular orientation of said rotatable platform.

19. The direction finder antenna system of claim 18, wherein said relation between phase difference between signal portions collected by said at least two antenna units and

angular orientation of said rotatable platform being indicative of azimuth of origin of the collected signal with respect to a predetermined angular orientation of said rotatable platform within plane of rotation thereof.

20. The direction finder antenna system of any one of claims 1 to 19, further comprising an orientation detection module configured for providing data on relative orientation with respect to selected geographical coordinate system thereby enabling coordinate conversion of direction data to a selected set of geographical coordinates.

21. The direction finder antenna system of claim 20, wherein said orientation detection module comprises at least one of inclinometer, compass, gyroscopic orientation system, and accelerometer.

22. The direction finder antenna system of any one of claims 1 to 21, further comprising a direction unit configured to provide data on relative orientation of reference direction of said direction finder antenna system and a selected geographical direction (e.g., north), thereby enabling conversion of azimuth data with respect to said direction finder antenna system to a selected geographical coordinate.

23. The direction finder antenna system of any one of claims 1 to 22, configured to be mounted on a mobile platform.

24. A method for use in finding direction of origin of electromagnetic radiation signal, the method comprising:

(a) providing at least first and second antenna units positioned on a rotatable platform;

(b) moving said rotatable platform in a selected motion pattern;

(c) determining phase difference in signal portions collected by said at least first and second antenna units; and

(d) determining a relation between the phase difference in collected signal portions and angular position of said rotatable platform and utilizing said relation to determine azimuth of said origin with respect to a predetermined angular orientation of the rotatable platform within a plane defined by said rotatable platform; and

(e) determining magnitude of said phase difference in collected signal portions and angular position of said rotatable platform throughout rotation path of said rotatable platform and utilizing said magnitude to determine elevation of said origin with respect to said plane define by the rotatable platform.

25. The method of claim 24, wherein said selected motion pattern comprises complete circular motion at a selected angular speed.

26. The method of claim 24, wherein said selected motion pattern comprises back-and-forth motion at a selected motion frequency.

27. The method of any one of claims 24 to 26, further comprising maintaining heading of said at least first and second antenna units toward a common direction and designating said common direction as reference azimuth direction within said plane.

28. A system comprising at least two antenna units, said at least two antenna units being positioned on a rotatable platform at a selected distance between them, said rotatable platform is adapted for rotating at a selected angular frequency, said at least two antenna units being configured for collecting electromagnetic radiation of a selected frequency range and to provide output data indicative of phase relation between signal portions collected by said at least two antenna units, thereby providing data indicative of direction of origin of said electromagnetic radiation comprising azimuth with respect to a predetermined angular orientation of the rotatable platform within a plane of rotation of said rotatable platform and elevation with respect to the plane of rotation.

29. The system of claim 28, comprising a control circuit connectable to said at least two antenna units, said control circuit is adapted for receiving input data indicative of phase relations being signal portions collected by said at least two antenna units, and for utilizing said phase relation with respect to angular frequency of said rotatable platform to determine data on direction of origin of said signal portions.

30. An aerial vehicle comprising one or more rotors, at least first and second antenna units mounted on respectively first and second positions on at least one of said rotors, and a signal collection circuit configured for receiving data on signal portions collected by said at least first and second antenna units while rotating with said at least one rotor, and analyze phase difference between the signal portions with respect to different angular positions of said rotor thereby generating output data indicative of direction of origin of collected signal wherein said output data comprising azimuth with respect to a predetermined angular orientation of the rotatable platform within a plane of rotation of said rotatable platform and elevation with respect to the plane of rotation.

31. The aerial vehicle of claim 30, further comprising at least one orientation detection module configured for providing data on orientation of said aerial vehicle with respect to geographical coordinates, and a processing unit configured for receiving said

data on orientation for processing said output data to thereby determine data on direction of origin of collected signal in a selected set of geographical coordinates.