

AIRBORNE RECONNAISSANCE SYSTEM

ABSTRACT

An airborne reconnaissance system comprising: (1) Gimbals having at least two degrees of freedom; (2) At least one array of light sensors positioned on the gimbals, for being directed by the same within at least two degrees of freedom; (3) Map storage means for storing at least one Digital Elevation Map of an area of interest, divided into portions; (4) Inertial Navigation System for real-time providing to a gimbals control unit navigation and orientation data of the aircraft with respect to a predefined global axes system; (5) Portion selection unit for selecting, one at a time, another area portion from the area of interest; and (6) servo means for directing the gimbals. The system uses data from the inertial navigation system and from the digital elevation map for real-time calculating direction to selected area portions, and for maintaining the direction during integration of light from the terrain, and for producing corresponding images of area portions.

Figure 4