



Locating, locating, locating

Originally designed for military use, the Global Positioning System (GPS) now lets boaters, drivers, and hikers pinpoint their location to within a few meters. Most of GPS's functionality is derived from arithmetic, algebra, and geometry. The time it takes for a signal to travel from a transmitting satellite to a GPS receiver establishes the distance between the two, which places the GPS user on an imaginary sphere centered at the satellite. Similar calculations are done concurrently using other satellites. Once corrections for the difference between satellite and receiver clocks are made, the GPS user's location must be one of the points of intersection of three spheres.

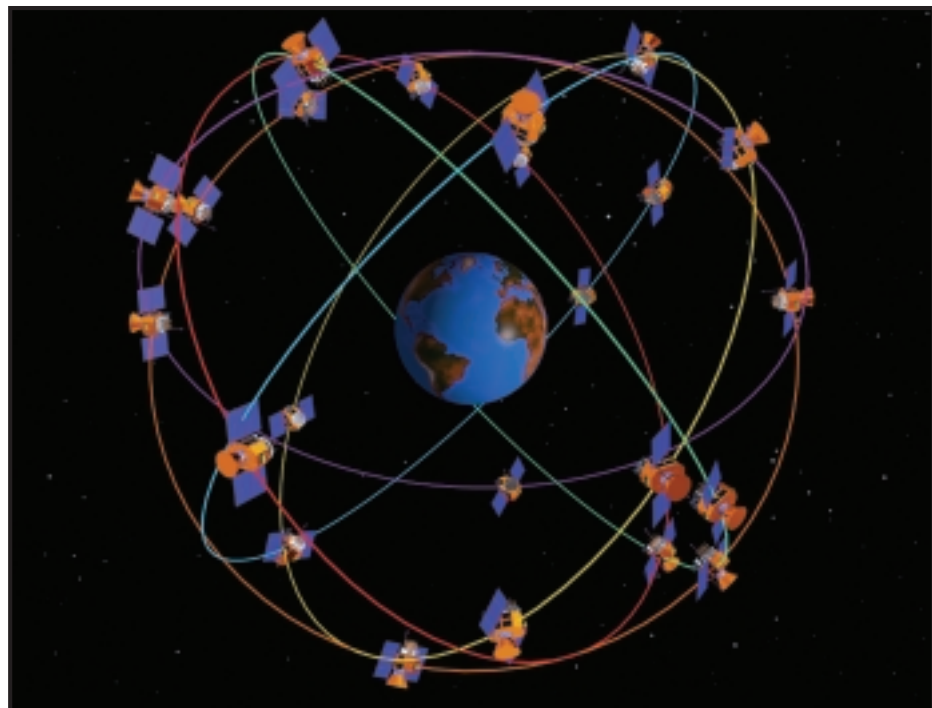


Image courtesy of The Aerospace Corporation.



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