

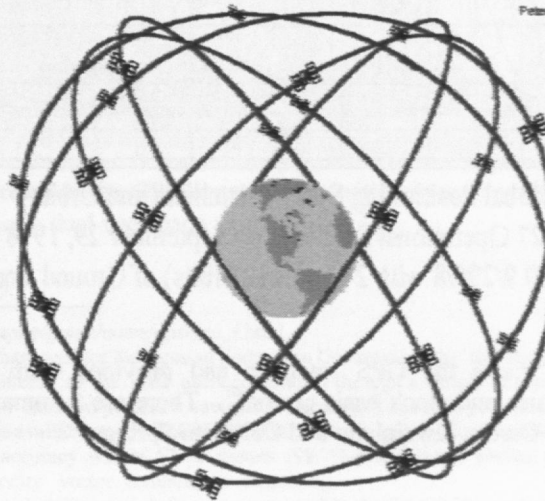
The Global Positioning System is owned and operated by the United States Air Force⁵⁵. The system is composed of three parts. These are

- Space segment
- Control segment
- User segment

The space segment consists of a constellation of 24 NAVSTAR satellites within six orbital planes.⁵⁶ GPS satellites transmit two codes. Firstly there is the P-code designed for military applications⁵⁷. Secondly there is a civilian or non/military code called the C/A-code⁵⁸.

GPS CONSTELLATION DIAGRAM⁵⁹

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**GPS Nominal Constellation
24 Satellites in 6 Orbital Planes
4 Satellites in each Plane
20,200 km Altitudes, 55 Degree Inclination**

⁵⁵ The GPS navigational system is operated by the 2nd Space Operation Squadron of the 50th Space Wing at Falcon Air Force Base, Colo., IBID.

⁵⁶ "The satellites orbit the earth with a period of 12 hours in circular 10,900 n. mi. orbits at an inclination of 55 degrees with respect to the equator. Each satellite passes over the same location on earth about once every day (or every 23 hours and 56 minutes). The spacing of the satellites in orbit is arranged so that a minimum of five satellites are in view to users worldwide with a Position dilution of precision of six or less" Scott Pace et. Al. *The Global Positioning System, Assessing National Policies*, (Washington RAND, at. 218.

⁵⁷ A p-code is "a week-long pseudorandom number (PRN) sequence, approximately 6×10^{10} to the 12th power bits long, with a bandwidth of 10.23 MHz. The long length of the code makes it harder to acquire and more difficult to spoof, or to jam than the civilian signal because of its bandwidth. The signal is further protected by encryption". IBID at 219.

⁵⁸ This is a 1023-bit Gold Code with a bandwidth of 1.023 MHz. It is less accurate and easier to tamper with. IBID at 219.

⁵⁹ http://www.colorado.edu/geography/gcraft/notes/gps/gps_f.html.