

Low earth orbit: An orbit about the earth at an altitude of less than 5,600 km. A high earth orbit has an altitude above 5,600 km.

Nadir hole: That area directly under a satellite employing a radar sensor where the clutter is so severe that the system is unable to detect targets.

North Warning System: A chain of radars stretching across the northern area of North America from Alaska to Greenland, designed to warn of the approach of hostile aircraft or missiles. The North Warning System will eventually consist of 13 long range radars (11 in Canada and 2 in Alaska) and 39 short range unattended gap-filler radars to improve low level coverage.

Orbit: A body is considered to be in an orbit or path about the earth if it is capable of completing at least one circumnavigation of the globe before striking the surface. This implies that the body has been given sufficient energy to lift it above most of the atmosphere, where drag would cause it to decelerate rapidly, and that it has been accelerated in a suitable direction to a velocity able to sustain it above the earth.

Over-the-Horizon Radar: A very long-range radar, operating in the high-frequency band, designed to provide electronic surveillance of aircraft at extended ranges. OTH radar bounces energy off the ionosphere to ranges well beyond those achievable with conventional radars which are limited by the line of sight to the horizon. The echo returns to the receiver by the same path.

Passive sensors: Devices that monitor a portion of the electromagnetic spectrum searching for a characteristic emission from an object or a class of objects for the purposes of surveillance, detection, tracking or identification.

Perigee: The point in any non-circular orbit where the satellite is closest to the earth.

Period: The time required for a satellite to complete one orbit about the earth. Higher altitudes above the earth are associated with longer periods and slower velocities. The shortest possible period is about 89 minutes.

Pulse Doppler Radar: A pulsed radar designed to detect moving targets against a non-moving background by exploiting the frequency shift which exists whenever there is relative motion between the radar and target.

Radar: An acronym which stands for radio detection and ranging. Radar was fully developed as a useful military sensor system during the second world war and remains the most pervasive of the active surveillance, detection and tracking systems in use today.

Reconnaissance: The examination of an area to determine aspects or characteristics of the area or of activities of interest.

Repeat interval or revisit time: The period required for the spacecraft to return to the same sensing position.