

Satellites, aircraft, ships, submarines and ground facilities are all used to collect SIGINT. The high orbiting Rhyolite satellite possesses considerable signal intercepting abilities and is used for arms control monitoring. It can be targeted against telemetry, radars and communications, but its highest priority is telemetry interception. Other SIGINT satellites, low orbiting ferret satellites and aircraft also provide SIGINT information. Both the SR-71 and U-2 aircraft have SIGINT as well as photographic capabilities.

Radars and antennas at various ground sites are an important part of the SIGINT collection network. The COBRA DANE phased array radar is stationed in the Aleutian Islands, 480 miles from the Kamchatka Peninsula which is the primary impact point for almost all Soviet missile tests. COBRA DANE can detect an object the size of a basketball at a range of 20,000 miles and can simultaneously track more than a hundred objects. It is thus able to track Soviet reentry vehicles during ICBM tests and to track satellites. Other radar centres assist COBRA DANE.

Naval vessels, both surface vessels and submarines, are also used to collect signals intelligence.

Ocean Surveillance:

The Ocean Surveillance Information System consists of a variety of collection systems: satellites, aircraft, ground stations, surface ships and undersea collection systems. White Cloud, the satellite portion of the Classic Wizard Ocean Surveillance system, lacks a radar capability, but is equipped with a passive infra-red scanner, radiometers and radio-frequency antennas which can monitor radio communications and radar emissions from Soviet submarines and ships.

Space Surveillance:

Space surveillance systems assist in monitoring compliance with the Outer Space Treaty, the ABM Treaty and the SALT II Treaty. They also provide intelligence on Soviet space systems and their contribution to Soviet military capabilities. An ASAT Treaty could be monitored through detection and tracking of Soviet satellites.

The KH-11 satellite appears to have the ability to photograph Soviet satellites in low earth orbit. Research on space-based reconnaissance systems is proceeding and an infra-red system for detecting hostile satellites has been successfully tested on the ground. The Air Force's Space Surveillance Technology Program is designed to develop a space-based system with full earth orbit coverage to reduce overseas basing of sensors and to provide real-time coverage.

The ground-based Space Detection and Tracking System (SPADATS) relies on a series of Baker-Nunn optical cameras. These cameras can photograph at night an illuminated object the size of a basketball a distance of 20,000 miles or more in space. However, the cameras are effective only when the weather is clear and the satellites are illuminated by the sun. The system is useful for tracking but not detection and has a slow data acquisition rate and film processing time. The Ground-based Electro-Optical Deep Space Surveillance (GEODSS) system will soon replace the Baker-Nunn system. The