

Tour – Lincoln Space Surveillance Complex

Personnel selecting this option will be bused to Westford, Massachusetts.

Since 1995, the Lincoln Space Surveillance Complex in Westford, Massachusetts, has played a key role in space situational awareness and the Laboratory's overall space surveillance mission. The site comprises three major radars – Millstone Deep-Space Tracking Radar (an L-band radar), Haystack Long-Range Imaging Radar (X-band), and the Haystack Auxiliary Radar (Ku-band).

The Millstone Hill Radar, a high-power L-band radar, is used for tracking space vehicles and space debris and plays a key role in the national deep-space surveillance program. A broad-based observatory capable of addressing a wide range of atmospheric science investigations, Millstone Hill has evolved over the past two decades in keeping with the space surveillance community's recommendations and support. As a contributing sensor to the Space Surveillance Network, the Millstone Hill Radar provides approximately 18,000 deep-space satellite tracks per year and coverage for almost all deep space launches, including premission planning, radar coverage of critical events, and searches. The Millstone Radar has been operating since 1957, when it successfully detected the Soviet Sputnik satellite.

The Haystack Ultrawideband Satellite Imaging Radar (HUSIR) is a dual-band (X and W) radar. Like Millstone, HUSIR is also a contributing sensor to the U.S. Space Surveillance Network, collecting imaging and metric data on space objects. It also collects data to assist NASA in developing models for orbital space debris. The exquisitely accurate surface of the HUSIR 120-foot-diameter antenna that enables W-band radar operation makes it also a valuable instrument for radio astronomy. HUSIR is available for use by the MIT Haystack Observatory as a radio-telescope to conduct single-dish radio astronomy and very-long-baseline interferometry experiments. Haystack's research facilities are used in various educational programs for graduate, undergraduate, and pre-college students.

The Haystack Auxiliary Radar (HAX) was built in 1993 by Lincoln Laboratory to augment satellite imaging and space-debris data collections. It is a Ku-band radar with its own 40-foot antenna. The combination of Haystack and HAX radars provides year-round availability for U.S. Strategic Command imaging requirements.