The EISCAT Svalbard Radar was commissioned in 1996. Together with a new radar at Poker Flat, Alaska, it is one of the most modern of the World's incoherent scatter radars.

The EISCAT Svalbard Radar is located at 78°09'11" N, 16°01'44" E, and 445m above sea level. The Invariant Latitude is 75°11' N and the local dip angle is 82.06°. The radar is situated near the main Svalbard settlement, Longyearbyen, where it benefits not only from excellent supporting infrastructure, transport, and accommodation facilities but also wide opportunities for direct collaboration with many other installed instruments including a wide range of optical systems, two rocket launching facilities, MST and meteor scatter radars, and an ionospheric heating facility. The radar is connected to the internet through an ultra-wide bandwidth optical cable which links Longyearbyen to the Norwegian mainland.

The EISCAT Svalbard Radar is built around low maintenance television transmitter technology, combining eight transmitters to produce a peak output power of 1 MW at 25% duty cycle, and normally delivers in excess of 1500 hours of data each year. The radar uses two large Cassegrain fed parabolic antennas, one of 42m diameter which is fixed to look parallel to the local geomagnetic field and a second, 32m dish, which is fully steerable and can be slewed at up to 3°/second in both azimuth and elevation. The transmitter output is directed

towards either antenna by phasing in the final waveguide combiner and switching is possible within the interpulse period.

The radar transmitter bandwidth is 4 MHz, centered on 500 MHz while the receiver bandwidth is 30 MHz. Transmitter pulse lengths from 1 µs-2.0 ms can be used with a minimum interpulse period of 0.1 ms. The transmitted signal is circularly polarised and the effective receiver temperature is 65-75 K.

Like the other EISCAT radars, the EISCAT Svalbard Radar makes common observations for about 50% of the operational time. The data from these periods, including many satellite conjunction intervals, is routinely analysed in near real time to extract basic geophysical parameters and the results published through an online distributed database called Madrigal. The remaining observing time is used for the experiments of individual scientists, both within and outside the Association, and such data are reserved for the particular users for one year from the date of collection before also becoming freely available to the community.

All analysed data, and raw correlation data from each receiver, are securely archived by EISCAT. Analysed data are freely available through Madrigal while raw data can be obtained through members of the scientific community of the Association.