

IRS 1B

RS 1B had Improved features compared to its predecessor : gyro referencing for better orientation sensing, time tagged commanding (IRS-1A) facility for more flexibility in camera operation and line count information for better data product generation. Mission completed on December 20, 2003 after serving for 12 years and 4 months.

IRS 1B Specifications

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| Mission Category | Operational Remote Sensing |
| Launch Date Category | August 29, 1991 |
| Launch Site Category | Baikanur Cosmodrome Kazakhstan |
| Launch Vehicle | Vostok |
| Weight | 975 kg |
| Onboard Power | 600 Watts |
| Communication | S-band, X-band and VHF(commanding only) |
| Stabilization | Three axis body stabilized (zero momentum) with 4 Reactions Wheels, Magnetic torquers |
| RCS | Monopropellant Hydrazine based with sixteen 1 Newton thrusters |
| Payload | Three solid state Push Broom Cameras LISS-1(72.5 metre resolution), LISS-2A and LISS-2B (36.25 metre resolution) |
| Orbit | Polar Sun Synchronous |
| Altitude | 904 Km |
| Inclination | 99.08 Degrees |
| Local Time | 10.30 a.m. (descending node) |
| Repetivity | 22 days (307 orbits) |
| Mission Completed | December 20, 2003 |

IRS 1B Sensors

Characteristics of LISS I Sensor

It has four spectral bands in the range of 0.45 to 0.86 μm (0.45 to 0.53 μm to 0.59 μm , 0.62 to 0.68 μm and 0.77 to 0.86 μm) in the visible and near infrared range with two different spatial resolutions of 72.5 m. and 36.25 meter from one no. of open LISS-1 and two nos. of LISS-2 sensors respectively. It provides repetitive coverage after every 22 days. Like all other LANDSAT/ SPOT missions which are designed for global coverage IRS is also in sun synchronous, polar orbit at about 900 km altitude and cover a width of 148 km. on ground. It uses linear array detectors (CCD) like SPOT.

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| Sensor | LISS I |
| Resolution | 72.5 |
| Swath | 148 Km |
| Repetivity | 22 Days |
| Spectral Bands | 0.45-0.52 microns(B1) 0.52-0.59 microns(B2) 0.62-0.68 microns(B3) 0.77-0.86 microns(B4) |

Characteristics of LISS II Sensor

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| Sensor | LISS II |
| Resolution | 36.25 |
| Swath | 74 X 2 Km |
| Repetivity | 22 Days |
| Spectral Bands | 0.45-0.52 microns(B1) 0.52-0.59 microns(B2) 0.62-0.68 microns(B3) 0.77-0.86 microns(B4) |