ADVANCED CENTRIC SYSTEMS B.V

COMMUNICATION SATELLITES

Product brochure

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THE PROBLEM

Observation satellites (also known, unofficially, as “Spy Satellites”) are platforms launched into orbit around the Earth, in outer space, for the purpose of observing and monitoring specific zones on Earth using various sensors and delivering the information they pick up to various users in the context of military and intelligence applications.

Primary Types

Various types of Observation satellites are in use around the world:

- Missile early warning satellites
- Nuclear explosion detection satellites
- IMINT (Imagery Intelligence) satellites
- SIGINT (Signal Intelligence) satellites
- Radar surveillance satellites

Functions

The various types of Observation satellites can fulfill the following functions:

- Detection of missile launches
- Monitoring of nuclear tests
- High resolution photography (IMINT = Imagery Intelligence)
- Electronic monitoring of various signals (SIGINT = Signals Intelligence)
- Measurement & Signature Intelligence (MASINT)
- Covert communications

ACS offers four primary Observation satellite models (RecSat, ImiSat-1000, ImiSat-2000 and ImiSat-3000), plus two additional Observation satellite series.

RecSat Observation Satellite

RecSat is a remote sensing Observation satellite utilizing high agility and multiple beam electrical steering capabilities to produce a high throughput per revolution ratio. The images picked up by RecSat are promptly downloaded through a high rate datalink communication channel.

RecSat produces high-resolution images and offers large area coverage through different modes of operation:

- Spot mode: pinpoint, spot imaging controllable by mechanical steering
- Strip mode: different swath widths determined by the resolution required

- Scan mode: wide area coverage using electronic beam steering
- Mosaic mode: high-resolution coverage of a large area using mechanical & electronic steering

KEY FEATURES & MAJOR ADVANTAGES

Primary Characteristics & Advantages:

- High resolution imagery output
- High geolocation accuracy
- Simultaneous panchromatic & multispectral imaging capability
- Lightweight (400 kg) offers an extensive range of launching options
- High agility
- Life expectancy: up to 10 years with 30 kg fuel
- A high degree of autonomy minimizes operating costs
- Orbit altitude: 400 to 800 km
- Slant angle: 45 degrees
- 46 m resolution at 550 km
- Swath width: 13.8 km
- Scanning velocity: 6900 m/s
- Imaging time per orbit: 18 minutes

ACS's ImiSat Series Satellites are groundbreaking when their weight to performance and operational autonomy are considered. The satellites in this series are 250 kg, 3-axis-stabilized platforms fitted with a high-resolution remote sensing payload.

These satellites may be controlled from a single ground control station or from multiple stations.