



AIRBORNE SATELLITE COMMUNICATION  
TERMINAL

#MilitaryCommunication



**aselsan**

## AIRBORNE SATELLITE COMMUNICATION TERMINAL

With its ability of beyond line-of-sight communication and endurance to various geographical conditions, Satellite Communication Systems are indispensable communication tools by satisfying campaign/logistic requirements below, when it comes to beyond line of sight communication capabilities of the communication systems are restricted:

- Forming tactical picture and high definition photo/video transfer,
- Providing data communication between platform and command centers,
- Providing monitoring and controlling the location of manned/unmanned airborne vehicles

The 45 cm Ka-band Airborne Satellite Communication Terminal enables secure and high-speed satellite communication on the move in all types of operational and environmental conditions. It offers customizable system solutions to meet diverse user needs. Specifically designed for various airborne platforms and featuring precision stabilization, the terminal, uniquely developed by ASELSAN using domestic capabilities, is housed within a radome with high RF permeability.

Manufactured using additive manufacturing techniques, the 45 cm Ka-band Airborne Satellite Communication Terminal offers a lightweight, high-strength, and compact design, making it suitable for confined spaces. Its unique design ensures superior RF performance.

The Ka-band Airborne Satellite Communication Terminal comprises an Antenna Subsystem, an Antenna Steering Subsystem, and Modem units. The Antenna Control Unit, a sub-unit of the 45 cm Ka-band terminal, generates the necessary data to precisely point the antenna towards the satellite. Moreover, the Airborne Satellite Modem developed by ASELSAN provides high-security communication through its encryption features. Additionally, by means of the beacon receiver unit, beacon signal produced and it is integrated with Inertial Navigation System (INS) and gyro data, ensuring superior and reliable performance in highly accurate satellite tracking and stabilization.

### General Features

- Lightweight and compact design
- Configurable for different air platforms according to the user requirements
- MIL-STD-810, MIL-STD-461, MIL-STD-704
- Operating capability at altitudes above 40,000 ft.
- National and customized waveform design
- Efficient spectrum usage
  - Adaptive coding and modulation
  - Dynamic channel management
  - Automatic beam tracking and handover
  - IP throughput optimization

### Functional Features

- Stabilization and tracking in azimuth, elevation and cross elevation axes.
- High tracking performance with beacon signal and/or INS data
- Effective stabilization during tracking with an axis motor capable of 500 m/s<sup>2</sup> acceleration
- Low link establishment time
- Low end-to-end latency
- National algorithm-based and need-based cryptographic solutions
- QoS Management: Prioritization for services such as voice, data and video teleconferencing etc. configurable data rate according to user requirements
- Compatible system architecture with various crypto devices
- Configurable Interfaces according to the user requirements
  - IP Based, Secure/Non-secure voice, data, video teleconferencing and fax communication
  - Serial based data communication (RS232, RS442 ARINC-429, Link communication etc.)

### RF Features

- Supported Band : Ka Band
- Polarization : Right and Left Circular Polarization (Switchable)
- Tx Gain : >40dBi
- G/T (mid-band) : >13 db/K
- Rx Frequency : 19.2 – 21.2 GHz
- Tx Frequency : 29-31 GHz

Specifications are subject to change without any notice. | All tolerances are within ±10%.