

C2SAT

C2SAT X150MIL

DESIGNED FOR NAVY VESSELS

The C2SAT X150MIL is a high performance stabilized VSAT antenna proven according to US Military standards for vessels participating in sea warfare and defence. The antenna is easy to install, light and small - yet reliable and providing superior radio performance to support mission critical applications used on a modern battle ship.

- Weight: ~ 250 Kg
- Height: 2.0 m
- Diameter: 2.1 m
- Antenna completely assembled, balanced and tested at factory to support fast deployment

4-AXES TECHNOLOGY

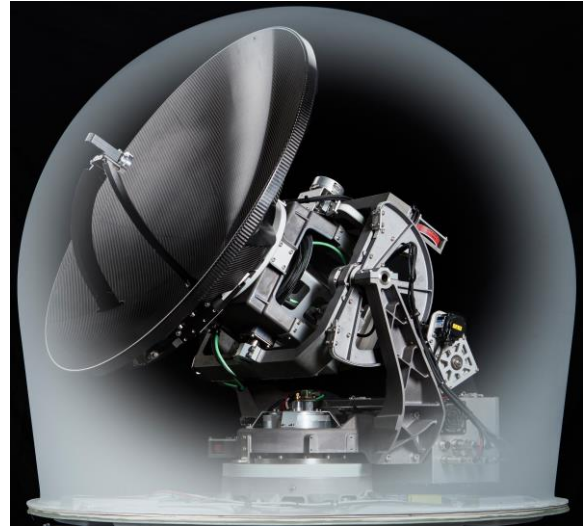
ASTG provides stabilized VSAT antennas built on a unique and proven 4-axes technology, where the fourth axis is used for polarization. The design enables shorter geometric path and less rotation torque for each axis, extending the life of the mechanical parts of the antenna as the system is subjected to less stress than a 2-3-axes system. The third axis also solves problems related to the zenith paradox occurring in a wide belt around the equator at high reflector elevations.

SUPERIOR REFLECTOR SOLUTION

The antenna design is of Prime Focus type and the reflector is made of carbon fibre, standard for C2SAT antennas. The RF equipment is therefore light and easy to manoeuvre for the stabilizing platform, which facilitates fast and precise movements. The antenna complies with the requirements of Eutelsat and provides several technical advantages, such as;

- High gain
- Low side lobes
- High cross-pol discrimination
- Up to 50W BUC
- EIRP (with 50W BUC) 58 dBW
- Resistant to disturbance from other radio sources

Advanced Stabilized Technologies Group (ASTG) develops, manufactures and supplies high performance, stabilized VSAT antennas marketed under the product name C2SAT.



C2SAT

AX

FAST & ROBUST SYSTEM

The antenna system is fast due to the gimbal design with AC servo motors on each axis and the gradient satellite tracking method on all 4 axes. The antenna locks on the satellite within 8 seconds, starting from its parking position. Robustness is built into the system, partly because of the solid rig construction, but also because the 4-axis gimbal design facilitates less weight to move and a minimum of movement for each axis - all the time.

REMOTE OPERATION AND MAINTENANCE

C2SAT antennas are generally designed for remote Operation and Maintenance. The functionality includes;

- Real time supervision with access to performance statistics
- Remote management using SNMP
- Remote access control using SSH

COMPLIANCE TO STANDARDS

C2SAT X150MIL is tested and approved based on military standard specifications concerning vibration, shock, and EMC according to MIL STD 810G and MIL STD 461F.

C2SAT X150MIL

150cm X-band
Military Marine Stabilized VSAT System

| FEATURES | SPECIFICATION DATA |
|--------------------------------|---|
| Stabilisation Type | 3-axes gimbals. AC servo low inertia belt drive. |
| Antenna Type | Prime Focus |
| Reflector Diameter | 1.5 m (59") |
| Radome Size | H: 2.0 m (79") D: 2.1 m (83") |
| Weight including Radome | 250 kg (551 lbs) |
| Frequency | Rx: 7.25 – 7.75 GHz Tx: 7.90 – 8.40 GHz |
| Antenna Gain | Rx: 39.5 dBi / Tx:40.5 dBi |
| Reflector Material | Carbon Fibre |
| Axial Ratio Tx | 1.0 |
| Signal Polarization | Circular RHCP or LHCP |
| G/T (@ 20° elevation, typical) | 17.5 dB/K @ 7.5GHz |
| Maximum BUC Power | 50W internal BUC |
| Antenna Movement, azimuth | Continuous, unlimited, (slip ring) |
| Antenna Movement, Elevation | -10 – 120° |
| Antenna Movement, Cross Level | ± 30° |
| Antenna Movement, Polarisation | ± 120° |
| Ship Motion | ± 30° per 4s in pitch, roll and yaw |
| Heave | +/- 5m @3s |
| Pointing accuracy | 0.1° RMS |
| GPS Antenna | Built in |
| Radar Rejection | >80 dB @ 9.6 GHz |
| Radome Material | Polyester laminate with Trident foam core |
| Compass Interface | NMEA 0183 |
| Nominal Voltage: | 115VAC @ 60 Hz or 220 – 230VAC @ 50/60 Hz |
| Operating Temperature | -20 – 60 °C, with Air Conditioner MIL-STD-810G Method 501.5 & 502.5 |
| Humidity | 97% @ 30 °C MIL-STD-810G Method 507.5 procedure II |
| Vibration Operating | MIL-STD-810G, Metod 528, Table 528.III |
| Shock Operating | 20 g, half-sine 11 ms, MIL-STD-810G, Method 516.6 |
| Shock Non-Operating | Transverse/Longitudinal: 20 g 20 ms; 40 g 6 ms, Vertical: 15 g 20 ms; 30 g 6 ms MIL-STD-810G Method 516.6 |
| EMC | MIL STD 461F complete including RS103 200V/m, (2 MHz – 40 GHz) |

Key Features

- 3 axes - No zenith problems at equator
- Real Military standard
- Fast acquisition
- High MTBF
- Modem agnostic
- SNMP O&M

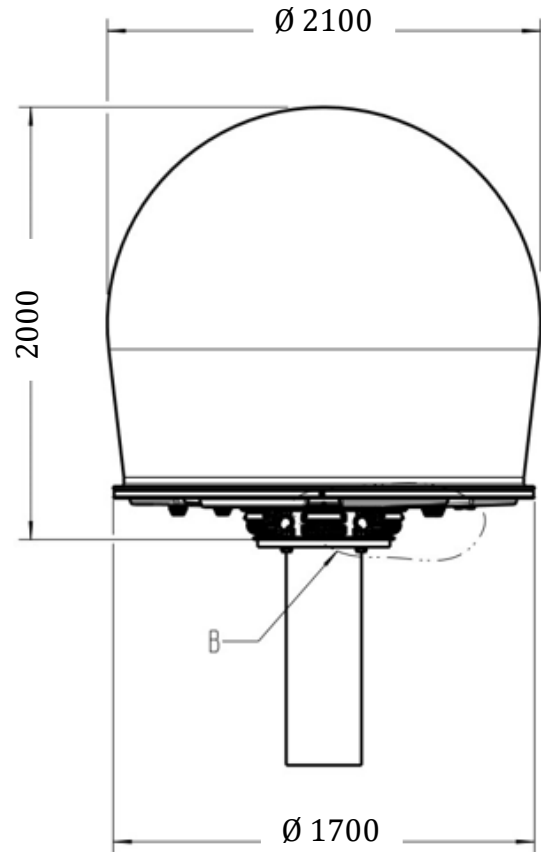


Figure 1, Radome Size in mm

ASTG Advanced Stabilized
Technologies Group

Robust Antennas for the Most Demanding Customers

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