



KebNi AB develops, manufactures and supplies high performance, stabilized VSAT antennas marketed under the product name KebNi Maritime.

KuKa130MIL

DESIGNED FOR NAVY VESSELS

The KebNi Maritime KuKa130MIL simultaneous dual band system 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: 1.70 m
- Diameter: 1.75 m
- Antenna completely assembled, balanced and tested at factory to support fast deployment

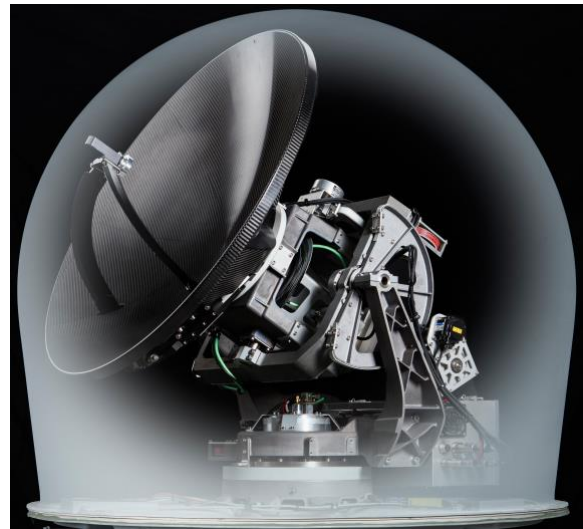
4-AXES TECHNOLOGY

KebNi provides stabilized VSAT antennas built on a unique and proven 4-axes technology. 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 exposed to less stress than a 3-axes system. The fourth 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 KebNi Maritime 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
- 16 W Ku and 5 W Ka internal BUCs
- EIRP for Ku; 55 and for Ka 57 dBW
- Resistant to disturbance from other radio sources



FAST & ROBUST SYSTEM

The simultaneous dual band 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

KebNi Maritime KuKa130MIL simultaneous dual band system is tested and approved based on military standard specifications concerning vibration, shock, and EMC according to MIL STD 810G and MIL STD 461F.

KebNi Maritime KuKa130MIL

130cm KuKa-band
Military Marine Stabilized VSAT System

Key Features

- Simultaneous Dual Band Ku and Ka
- 4 axes - No zenith problems at equator
- Real Military standard
- Fast acquisition
- High MTBF
- Modem agnostic
- SNMP O&M

| FEATURES | SPECIFICATION DATA |
|--------------------------------|---|
| Stabilisation Type | 4-axes gimbals. AC servo low inertia belt drive. |
| Antenna Type | Prime Focus |
| Reflector Diameter | 1.3 m (51") |
| Radome Size | H: 1.70 m (67") D: 1.75 m (69") |
| Weight including Radome | 250 kg (551 lbs) |
| Frequency Ku | Rx: 10.95 – 12.75 GHz Tx: 13.75 – 14.5 GHz |
| Frequency Ka | Rx: 20.2 – 21.2 GHz Tx: 30.0 – 31.0 GHz |
| Antenna Gain | Ku: Rx: 41.8 dBi / Tx: 43.3 dBi Ka: Rx 47.5 dBi / Tx: 50.5 dBi |
| Reflector Material | Carbon Fibre |
| Cross Polar Isolation | Ku: > 35 dB within 1dB cone; Ka: > 25 dB |
| Signal Polarization | Ku: Linear Cross-pol or Co-pol Ka: Circular RHCP or LHCP |
| G/T (@ 20° elevation, typical) | Ku: 19.0 dB/K @ 12.2 GHz Ka: 24.0 dB/K @ 20.7 GHz |
| BUC Power | 16 W Ku and 5 W Ka internal BUCs |
| Antenna Movement, azimuth | Continuous, unlimited, (slip ring) |
| Antenna Movement, Elevation | -5° – 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) |

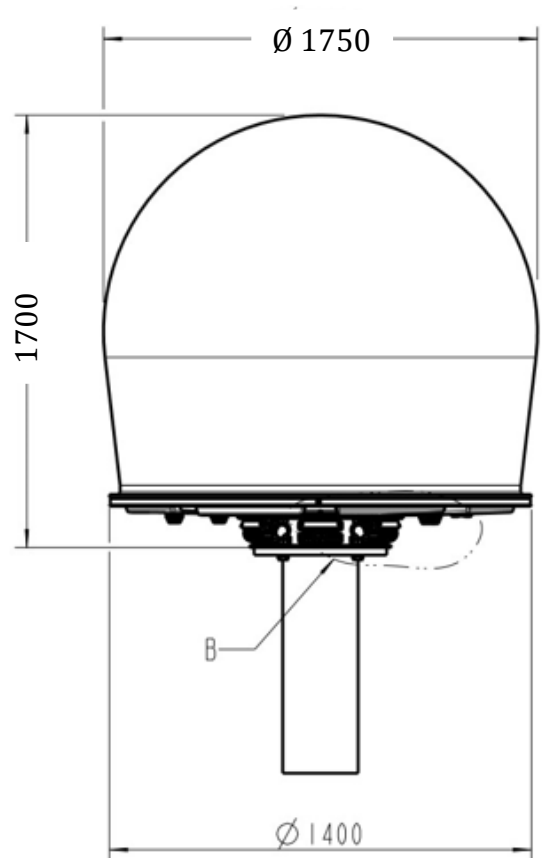


Figure 1, Radom Size in mm

KebNi

Bringing Stability to a World in Motion

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