

Kebni develops, manufactures and supplies high performance SATCOM antennas for land and maritime users.

## Kebni Ka100MIL

100 cm Ka-band | Military Marine Stabilized VSAT System

### Designed for Navy Vessels

The Kebni Maritime Ka100MIL 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: ~ 230 Kg
- Height: 1.44 m
- Diameter: 1.44 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, 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 or 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.

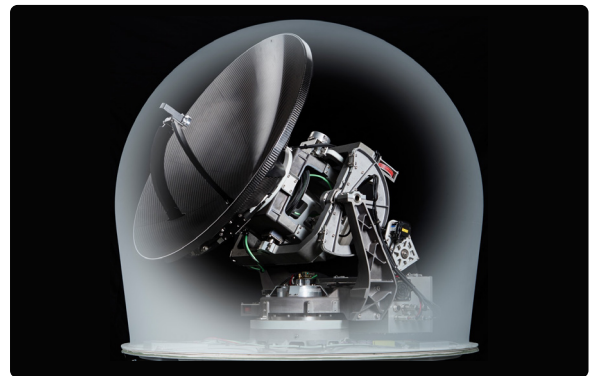
### Superior Reflector Solution

The antenna design is of Prime Focus type and the reflector is made of carbon fibre, standard for 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
- Up to 50W BUC
- EIRP (with 20W BUC) 61 dBW
- Resistant to disturbance from other radio sources

### Fast and 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 Performance

Kebni Maritime 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 Ka100MIL is tested and approved based on military standard specifications concerning vibration, shock, and EMC according to MIL STD 810G and MIL STD 461F.

| Features                       | Specification Data  |
|--------------------------------|---|
| Stabilisation Type             | 3-axes gimbals. AC servo low inertia belt drive.  |
| Antenna Type                   | Prime Focus   |
| Reflector Diameter             | 1.0 m (39")   |
| Radome Size                    | H: 1.44 m (57") D: 1.44 m (57")   |
| Weight including Radome        | 230 kg (510 lbs)  |
| Frequency                      | Rx: 19.2 – 21.2 GHz Tx: 29.0 – 31.0 GHz   |
| Antenna Gain                   | Rx: 44.5 dBi / Tx: 48.0 dBi   |
| Reflector Material             | Carbon Fibre  |
| Axial Ratio Tx                 | 1.0   |
| Signal Polarization            | Circular RHCP or LHCP   |
| G/T (@ 20° elevation, typical) | 20 dB/K @ 21 GHz  |
| Maximum BUC Power              | 50W internal BUC  |
| 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<br>MIL-STD-810G Method 501.5 & 502.5  |
| Humidity                       | 97% @ 30 °C<br>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,<br>MIL-STD-810G, Method 516.6  |
| Shock Non-Operating            | Transverse/Longitudinal: 20 g 20 ms; 40 g 6 ms,<br>Vertical: 15 g 20 ms; 30 g 6 ms<br>MIL-STD-810G Method 516.6 |
| EMC                            | MIL STD 461F complete including RS103<br>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

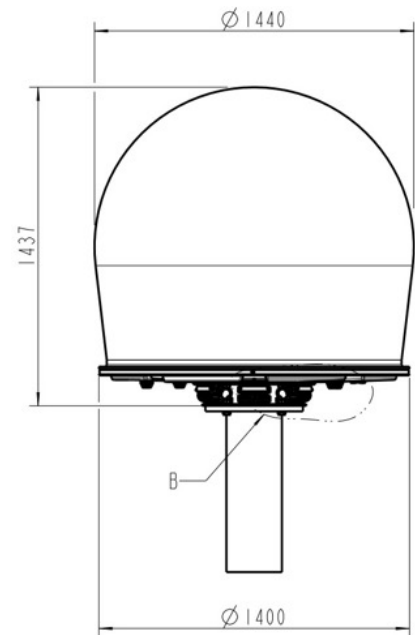


Figure 1, Radom Size in mm