

KuKa220MIL | 220 cm Ku & Ka-band Military Marine Stabilized VSAT Antenna

Designed for Navy Vessels

The Kebni Maritime simultaneous KuKa220MIL 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, providing superior radio performance to support mission critical applications used on a modern battleship.

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.

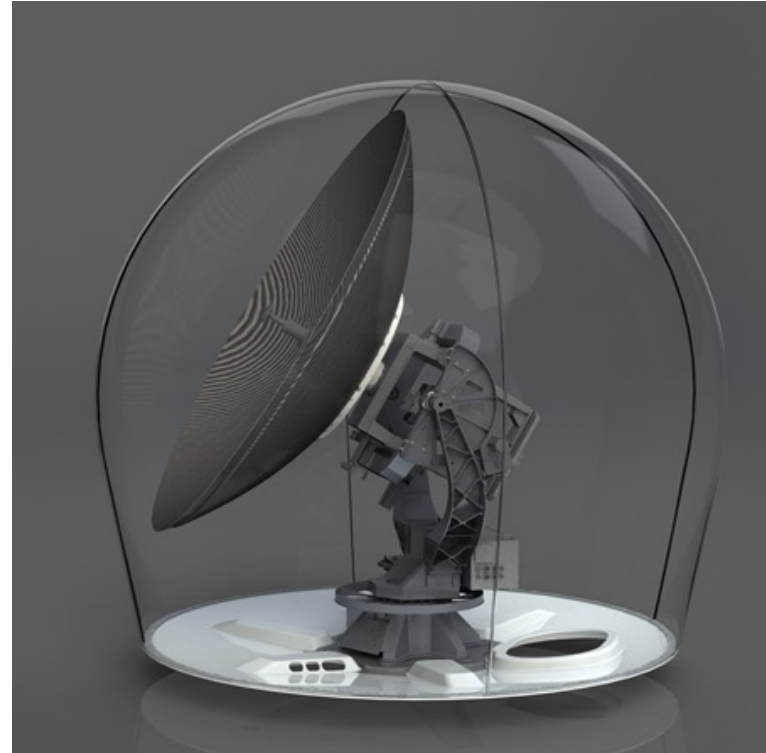
Superior Reflector Solution

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 ITU requirements and provides several technical advantages, such as:

- High gain
- Low side lobes
- High cross-pol discrimination
- Up to 80W with internal BUC
- EIRP 62 dBW (80W Ku-BUC)
- EIRP 65 dBW (40W Ka-BUC)
- 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.



KuKa220MIL KEY FEATURES

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

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

Kebni KuKa220MIL

- Weight: ~ 500 Kg (1100 lbs)
- Height: 3.042 m (109") (maximum)
- Diameter: 3 m (177")
- Antenna completely assembled, balanced and tested at factory to support fast deployment

Features	Specification data
Stabilisation Type	4-axes gimbals. AC servo low inertia belt drive.
Antenna Type	Prime Focus
Reflector Diameter	2.2 m (87")
Radome Size	H: 2.78 m (109") D: 2.97 m (177")
Weight including Radome	500 kg (1100 lbs)
Frequency Ku	Rx: 10.70 – 12.75 GHz Tx: 13.75 – 14.50 GHz
Frequency Ka	Rx: 17.70 – 20.20 GHz Tx: 27.50 – 30.00 GHz
Antenna Gain Ku (mid band)	Rx: 46.3 dBi / Tx: 47.5 dBi
Antenna Gain Ka (mid band)	Rx: 51.3 dBi / Tx: 54.7 dBi
Reflector Material	Carbon Fibre
Cross Polar Isolation	Ku > 30 dB, Ka >25 dB
Signal Polarization	Ku Linear Cross-pol, Ka Circular RHCP/LHCP
G/T (@ 20° elevation, typical)	Ku 25 dB/K @ 12 GHz, Ka 28 dB/K @ 20 GHz
Maximum BUC Power	80W Ku and 40W Ka internal BUCs
Antenna Movement, azimuth	Continuous, unlimited, (slip ring)
Antenna Movement, Elevation	-15° – 120°
Antenna Movement, Cross Level	± 30°
Antenna Movement, Polarisation	± 120°
Ship Motion	± 30° per 8s in pitch, roll and yaw
Heave	+/- 5m @3s
Pointing accuracy	0.2° 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, Method 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)
RF Compliance	Designed to meet Mil-Std-188-164B

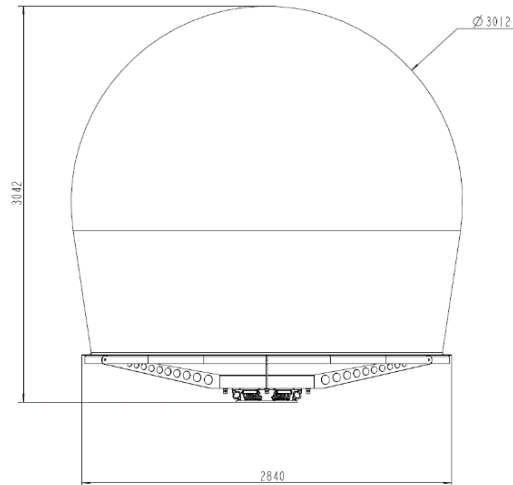


Figure 1, Radom Size in mm (indicative maximum figures)

Scan for more information:



Bringing stability to a world in motion