

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

## Kebni Maritime XKa220MIL

220 cm XKa-band | Military Marine Stabilized VSAT System

### Designed for Navy Vessels

The Kebni Maritime XKa 220MIL 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 providing superior radio performance to support mission critical applications used on a modern battleship.

- Weight: ~ 500 Kg
- Height: 2.78 m
- Diameter: 2.97 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 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.

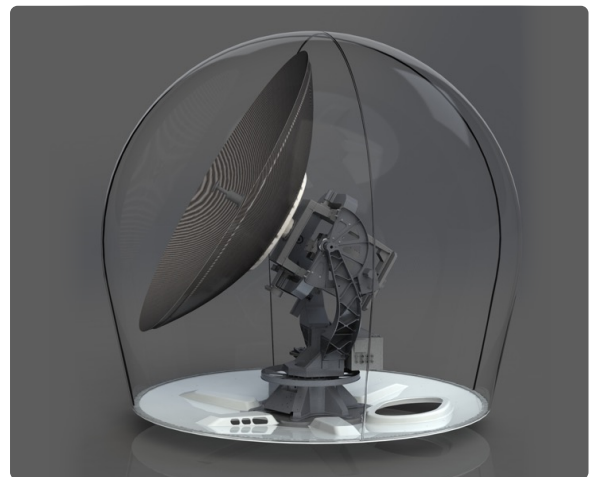
### Superior Reflector Solution

The antenna design is of centre feed type and the reflector is made of carbon fibre, standard for Kebni 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 as well as WGS and provides several technical advantages, such as;

- High gain
- Low side lobes
- High cross-pol discrimination
- 100 W X and 25 W Ka internal BUCs
- EIRP for X; 60 dBW and for Ka 66 dBW
- Resistant to disturbance from other radio sources

### Fast and 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 Performance

Kebni 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 XKa220MIL 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.

Features	Specification Data
Stabilisation Type	3-axes gimbals. AC servo low inertia belt drive.
Antenna Type	Centre feed reflector system
Reflector Diameter	2.2 m (87")
Radome Size	H: 2.78 m (109") D: 2.97 m (117")
Weight including Radome	500 kg (1100 lbs)
Frequency X	Rx: 7.25 -7.75 GHz Tx: 7.90 – 8.40 GHz
Frequency Ka	Rx: 20.2 – 21.2 GHz Tx: 30.0 – 31.0 GHz
Antenna Gain (mid band)	X: Rx:43.0 dBi / Tx: 43.7 dBi Ka: Rx 51.8 dBi / Tx: 55.2 dBi
Reflector Material	Carbon Fibre
Cross Polar Isolation	X: > 25 dB ; Ka: > 25 dB
Signal Polarization	X: Circular RHCP or LHCP Ka: Circular RHCP or LHCP
G/T (@ 20° elevation, typical)	X: 20.5 dB/K @ 7.5 GHz Ka: 29.0 dB/K @ 21 GHz
BUC Power	100W X and 25W 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
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 Meth-od 516.6
EMC	MIL STD 461F complete including RS103 200V/m, (2 MHz – 40 GHz)
RF Compliance	Designed to meet MIL-STD-188-164A

## KEY FEATURES

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

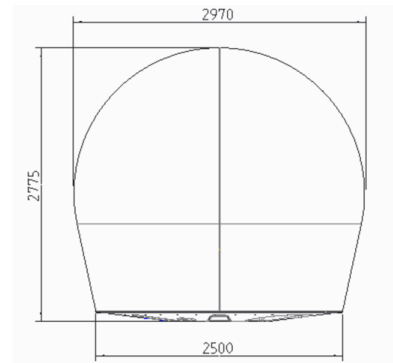


Figure 1, Radome Size in mm