NETWORK INNOVATIONS
Communicate. Anywhere.

SAILOR 600 VSAT Ku

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All networks, all ships big and small

Cobham SATCOM has employed its world-class engineering team to design a whole new high performance RF package which makes sure that SAILOR 600 VSAT Ku can be deployed anywhere in the world on as many Ku-band satellites as possible – even on smaller vessels going through heavy seaways.

Small and super-light

While one meter Ku-band antennas like the immensely successful SAILOR 900 VSAT are now a de-facto standard for global Ku-band networks, new technology and developments make it possible to build efficient high performance antennas also in a small size at a super-light weight. The design has been extensively tested on a fishing trawler operating in the North Sea and the Norwegian Sea.

Two Antennas, One Subscription – superfast switching

Service Level Agreements (SLA) are a crucial aspect of maritime IT and communication solutions. In order to meet the demand for high SLAs, especially when there are obstructions on the ship that cannot be overcome by setting up blocking zones, satcom service providers sometimes install two antennas.

The SAILOR Ku-Band VSAT platform makes this easier and less costly as it can operate two antenna systems on a single modem without the need for an extra box to manage the connection to the VSAT modem. The advanced SAILOR antenna controllers manage the connection between satellite and satellite router fully automatically and the switch-over happens in just 20 milliseconds.

High Throughput Satellites

New high-throughput satellites (HTS) such as the Intelsat EpicNG satellite series are now online in Ku-band. All SAILOR VSAT has been tested to work on these HTS services (MAVERICK from Network Innovations) and the aperture size still guarantees that the antenna can roam between spot beams and wide beams. State-of-the-art electronics, and a reflector dish and radome tuned for optimum performance on Ku-band frequencies ensure that SAILOR 600 VSAT Ku is a powerful choice.

SAILOR® 600 VSAT KU

Maritime 60 cm class Ku-band Antenna System

COBHAM

SPECIFICATIONS

Frequency band	Ku-Band (e.g. Intelsat EPIC)
Reflector size	65 cm / 25.5 inch
Certification	CE (ETSI EN 302 340, IEC 60950-1, IEC 60945, IEC 60950-22), Eutelsat Characterized
Design requirements	FCC, Intelsat, ETSI
System power supply range	100 - 240 VAC (ADU powered by ACU)
Total system power consumption	110 W typical, 215 W peak (VSAT Modem not included)

FREQUENCY BAND

Rx	10.70 to 12.75 GHz
Tx	13.75 to 14.50 GHz

ANTENNA CABLE

ACU to ADU cable	Single 50 Ω coax for Rx, Tx and ACU-ADU modem and power
ACU to ADU cable, requirements	RF loss at 1700M Resistance: < 0.9 Ω

ANTENNA CONNECTORS

ADU	Female N-Connector (50 Ω)
ACU	Female N-Connector (50 Ω)

ABOVE DECK UNIT (ADU)

Antenna type, pedestal	3-axis (plus auto skew) stabilised tracking antenna with integrated GNSS
Antenna type, reflector system	Reflector/sub-reflector, ring focus
Transmit Gain	37.7 dBi typ. @ 14.00 GHz (incl. radome)
Receive Gain	36.0 dBi typ. @ 11.70 GHz (incl. radome)
System G/T	15.9 dB/K typ. @ 11.70 GHz, at 30° elevation and clear sky (including radome)
BUC output power	6 W, ext. frequency (LO:12.8 GHz)
EIRP	45.5 dBW typ. @ 14.00 GHz FCC 25.222 limit 16.1dB W/4kHz, EESS502 limit 31.6dBW/40kHz (29.6dB W/40kHz for extended band) with 1° starting angle.
LNB	2 units multi-band LNB (band selection by ACU)
Polarisation	Linear Cross & Co-pol
Tracking Receiver	Internal "all band/modulation type" (DVB-S2 and power) and VSAT modem RSSI
Satellite acquisition	Automatic - w. Gyro/GPS Compass input. Support for gyrofree operation
Pointing accuracy	+/-0.2°
Elevation Range	-28° to +120°
Cross Elevation	+/-42°
Azimuth Range	Unlimited (Rotary Joint)
Ship motion, angular	Roll +/-25° (6 sec), Pitch +/-15° (5 sec), Yaw +/-10° (in 8 sec)
Ship, turning rate and acceleration	15°/s and 15°/s²
ADU motion, linear	Linear accelerations +/-2.5 g max any direction
Vibration, operational	Sine: IEC 60945 (8.7.2), DNV No.2.4 Class A, MIL-STD-167-1 (5.1.3.3.5) Random: Cobham Maritime Operational
Vibration, survival	Sine: Certified for EN60945 (8.7.2) dwell and EN60721-3-6 class 6M3 mod. by IEC EN 60721-4-6
Shock	EN60721-3-6 class 6M3 mod. by EN60721-4-6
Temperature (ambient)	Operational: -25°C to 55°C Storage: -40°C to 85°C
Humidity	100%, condensing
Rain / IP class	EN 60945 Exposed / IPX6
Wind	80 kt. operational 110 kt. survival
Ice, survival	25 mm / 1"
Solar radiation	670 W/m2 to EN60945
Compass safe distance	1m / 40" to EN60945
Maintenance, scheduled	None (first 10 years)
Maintenance, unscheduled	All electronic, electromechanical modules and belts are replaceable
Built In Test	Power On Self Test, Person Activated Self Test and Continuous Monitoring w. error log
Power OFF	Automatic safe mode
Dimensions (over all)	Diameter x Height: Ø 82 cm / 32 " x H 91 cm / 36 "

ANTENNA CONTROL UNIT (ACU)

Dimensions, Rack Mount	1U 19" ACU HxWxD: 4.4 x 48 x 33 cm HxWxD: 1.75" x 19" x 13"
Weight, Rack Mount	4.5 kgs. / 10 lbs.
Temperature (ambient)	Operational: -25°C to +55°C / -13°F to +131°F Storage: -40°C to +85°C / -40°F to +185°F
Humidity	EN 60945 Protected, 95% (non-condensing)
IP class	IP3x
Compass safe distance	0.3 m / 12" to EN 60945
Interfaces	1 x N-Connector for antenna RF Cable (50 Ω) w. automatic cable loss compensation 2 x F-Connectors (75 Ω) for Rx / Tx to VSAT Modem 1 x Ethernet Data (VSAT Modem Control) 1 x RS-422 Data (VSAT Modem Control) 1 x RS-232 Data (VSAT Modem Control) 1 x NMEA 0183 (RS-422 & RS-232) and prepared for NMEA 2000 for Gyro/GPS Compass input 2 x Ethernet (User) 1 x Ethernet (ThraneLink, service, set-up etc.) 1 x AC Power Input 1 x Grounding bolt
Input power	100 - 240 VAC, 110 W typical, 215 W peak
Display	OLED (red) display, 5 pushbuttons, 3 discrete indicator LEDs and ON/OFF switch
No transmit zones	Programmable, 8 zones with azimuth and elevation
Modem protocols (ABS)	iDirect OpenAMIP and custom protocol Comtech ROSS Open Antenna Management (ROAM) ESS Satroaming STM SatLink

VSAT MODEM

Modem types supported	iDirect iNFINITI 3000/5000 series iDirect Evolution X5/X7 Comtech CDM-570L/625/840 Comtech CDM-570L with ROSS (ROAM) Generic VSAT Modem Gilat SkyEdge II / II PRO / II-c STM SatLink 2900 ViaSat Linkway S2 Inmarsat G5 Newtec MDM3100 / 6000

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