

# SAILOR® 600 VSAT KA

Maritime broadband on THOR 7 with the smallest and lightest antenna available

2015 Product Sheet

# COBHAM

The most important thing we build is trust

**The SAILOR 600 VSAT Ka is the smallest, lightest and most advanced 3-axis stabilised Ka-band antenna system for the THOR 7 satellite network from Telenor Satellite Broadcasting (TSBc). Its unique composite/aluminium design keeps weight down and the well-proven SAILOR VSAT technology streamlines the deployment process and maximises operational uptime.**

Though SAILOR 600 VSAT Ka is a super light antenna, it has the ruggedness and reliability required of a professional maritime stabilised antenna system. Additionally, the low weight and compact form factor make it possible for smaller vessels to benefit from VSAT connectivity, when before it may not have been an option because of the need for larger, heavier antennas.

## Super light, super rugged

SAILOR 600 VSAT Ka is built to withstand the toughest sea conditions and still deliver high bandwidth connectivity on THOR 7. It is the fastest tracking antenna available in this size, with superior dynamic performance in all axes; roll, pitch and yaw. This high performance means that vessels more affected by rough seas can make the most of THOR 7 services, as SAILOR 600 VSAT Ka can maintain a link even in extreme conditions.

## A simple revolution in VSAT deployment

Advanced antenna systems like SAILOR 600 VSAT Ka simplify the once complex process of VSAT antenna procurement and installation. This saves time and money. Cobham SATCOM has achieved this revolution not through a single design breakthrough, but with a wealth of fea-

tures and design details unique to the SAILOR VSAT technology platform. For instance, a single cable between antenna and below deck equipment for RF, power and data combined with Automatic Azimuth Calibration and Automatic Cable Calibration enable unique 'one touch commissioning'. The Dynamic Motor Brakes inside the antenna remove the requirement for mechanical brake straps and make sure the antenna is kept in balance in any no-power situation, at sea or during transport.

## Re-defining maritime broadband

Integrating SAILOR 600 VSAT Ka with the iDirect X7 Satellite Router is the smartest, most cost-effective way to access ground-breaking new high throughput satellite (HTS) services on THOR 7. Higher

speeds, more reliability and class-leading installation time and cost savings, means this combination of state-of-the-art hardware and next generation services offers the ultimate support for business applications, vessel operations and crew welfare.

## Streamlining remote access and diagnostics

Just like all other SAILOR VSAT systems, the SAILOR 600 VSAT Ka is incredibly easy to manage; ensuring service providers can offer the best possible support to customers anywhere in the world. Easy remote access and diagnostic features include monthly statistics logging, SNMP and built-in e-mail clients that automatically email historical logging of system performance.



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## SYSTEM SPECIFICATIONS

Frequency band	Ka-Band (e.g. THOR 7)
Reflector size	65 cm / 25.5 inch
Certification	Compliant with CE (Maritime), ETSI, FCC
Type approvals	Telenor
System power supply range	ADU+ACU 20 - 32 VDC
Vibration, operational	Sine: EN60945 (8.7.2), DNV A, MIL-STD-167-1 (5.1.3.3.5). Random: Maritime
Vibration, survival	Sine: EN60945 (8.7.2) dwell, MIL-STD-167-1 (5.1.3.3.5) dwell. EN60721-3-6 6M3
Shock	MIL-STD-810F 516.5 (Proc. II)
Temperature (ambient)	Operational: -25° C to 55° C Storage: -40° C to 85° C

## FREQUENCY BAND

Rx	19.2 to 20.2 GHz
Tx	29.0 to 30.0 GHz

## ANTENNA CABLE

ACU to ADU cable	Single 50 $\Omega$ coax for Rx, Tx and power
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## ANTENNA CONNECTORS

ADU	Female N-Connector (50 $\Omega$ )
ACU	Female N-Connector (50 $\Omega$ )

## ABOVE DECK UNIT (ADU)

Antenna type, pedestal	3-axis stabilised tracking antenna with integrated GNSS (GPS, GLONASS, Beidou)
Antenna type, reflector system	Reflector/sub-reflector, ring focus
Transmit Gain	43.4 dBi typ. @ 29.5 GHz (incl. radome)
Receive Gain	40.4 dBi typ. @ 19.7 GHz (incl. radome)
System G/T	17.2 dB/K typ. @ 19.7 GHz, at $\geq 10^\circ$ elevation and clear sky (incl. radome)
BUC output power	5 W BUC
EIRP	50.4 dBW typ. @ 29.5 GHz
LNB	Ka single band LNB
Tracking Receiver	Internal "all band/modulation type" including e.g. narrow band, DVB-S2, GSC and modem RSSI
Polarisation	Circular Cross-Pol (TX: RHCP, RX: LHCP)
Tracking	6-axis MEMS INU, conical scan, internal GNSS and Gyro/GPS Compass input
Elevation Range	-28° to +125°
Cross Elevation	+/-43°
Azimuth Range	Unlimited (Rotary Joint)
Ship motion, combined angular min.	Roll +/-25° (in 6 sec), Pitch +/-15° (in 5 sec), Yaw +/-10° (in 8 sec)
Ship, turning rate and acceleration	15°/S and 15°/S <sup>2</sup>
ADU motion, linear	Linear accelerations +/-2.5 g max any direction
Satellite acquisition	Automatic - with or without Gyro/GPS Compass input
Humidity	100%, condensing

Rain / IP class	EN60945 Exposed / IPX6
Wind	80 kt. operational 110 kt. survival
Ice, survival	25 mm / 1"
Solar radiation	1120 W/m <sup>2</sup> to MIL-STD-810F 505.4
Compass safe distance	1 m / 40" to EN60945
Maintenance, scheduled	None
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 logging
Power OFF	Automatic safe mode
Dimensions (over all)	Height: H 91cm / 36 inch Diameter: $\varnothing$ 82 cm / 32 inch
Weight	37 Kgs. / 82 lbs.

## 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.
Interfaces	1 x N-Connector for antenna RF Cable (50 $\Omega$ ) w. automatic cable loss compensation 2 x F-Connectors (75 $\Omega$ ) for Rx / Tx to Modem 1 x Ethernet (Modem Control) 1 x RS-422 (Modem Control) 1 x RS-232 (Modem Control) 1 x NMEA 0183 (RS-422 or RS-232) for Gyro/GPS Compass input (future NMEA2000) 2 x Ethernet (User) 1 x Ethernet (ThraneLink, service, set-up etc.) 1 x DC Power Input 1 x Grounding bolt
Input power	20 - 32 VDC, 220 W peak, 125 W typ
Modem interface (control)	Generic, OpenAMIP, Custom protocol
Man Machine Interface (MMI)	Web MMI, OLED (red) display, 5 pushbuttons, 3 discrete indicator LEDs and ON/OFF switch
No transmit zones	Programmable, 8 zones with azimuth and elevation
Humidity	EN60945 Protected, 95% (non-condensing)
IP class	IP30
Compass safe distance	0.1 m to EN60945

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