

# SAILOR® 100 GX

Your 1m Ka-band system for Inmarsat Global Xpress®

2014 Product Sheet

# COBHAM

The most important thing we build is trust

**The SAILOR 100 GX is an advanced 3-axis stabilized Ka-band antenna system designed for the Inmarsat Global Xpress® satellite network. It is built to the same high quality and high performance that has made SAILOR the leading name in professional maritime communication equipment over decades.**

SAILOR 100 GX is a direct development from the immensely successful SAILOR 900 VSAT antenna system, which has created a new industry standard through innovative design for ease-of-use, quick deployment and reliable operation.

## The top performing GX system

SAILOR 100 GX features advanced Tracking Receiver technology that enables it to verify the right satellite in less than a second. This unique feature, tried and tested in the benchmark SAILOR FleetBroadband systems, ensures quick satellite acquisition at start-up and re-acquisition of the satellite in case of temporary blockage, after bad weather or poor signal strength.

## Quick & Easy to deploy

As with all SAILOR VSAT antenna systems, SAILOR 100 GX is light and compact. It uses a single cable between antenna and below deck equipment for RF, power and data, while advanced features such as Automatic Azimuth Calibration (home flag) and Automatic Cable Calibration significantly reduce installation time further. The unique Global Xpress One Touch Commissioning feature completes the package, making SAILOR 100 GX incredibly easy to deploy.

## Re-defining maritime broadband

With SAILOR 100 GX you have reliable access to the full range of Inmarsat Global Xpress global high throughput satellite services so you can enjoy the power of broadband for business applications, vessel operations and crew welfare.

## Remote access and diagnostics

In order to offer the best support to system integrators, in line with our world-class customer care, SAILOR 100 GX offers a number of features for remote access and remote diagnostic including monthly statistics logging, SNMP traps and Syslog func-

tionality. These remote maintenance features are supported by Cobham SATCOM's worldwide network of On-board Service Centers.

## Compatibility and testing

SAILOR 100 GX ships with the original SAILOR GX Modem Unit (GMU), which works directly with SAILOR 500/250 FleetBroadband to form the cornerstone of the Inmarsat Fleet Xpress service. The system is designed and tested to the highest maritime shock and vibration requirements, IEC EN 60721 to ensure reliable service and the longest possible life at sea.



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## SYSTEM SPECIFICATIONS

|                                |  |
|--------------------------------|--|
| Frequency band                 | Ka-Band (Inmarsat GX)  |
| Reflector size                 | 103 cm / 40.6"   |
| Certification                  | Compliant with CE (Maritime), ETSI, FCC                                      |
| System power supply range      | ADU+ACU 20 - 32 VDC, GMU 90 - 264 VAC  |
| Total system power consumption | 410 W peak, 200 W typical  |
| 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 M3 |
| Shock                          | MIL-STD-810F 516.5 (Proc. II)  |
| Temperature (ambient)          | Operational: -25° C to 55° C<br>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 Ω coax for Rx, Tx and power |
|------------------|---------------------------------------|

## ANTENNA CONNECTORS

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

## ABOVE DECK UNIT (ADU)

|                                     |   |
|-------------------------------------|---|
| Antenna type, pedestal              | 3-axis stabilised tracking antenna with integrated GPS                                    |
| Antenna type, reflector system      | Reflector/sub-reflector, ring focus   |
| Transmit Gain                       | 47.5 dBi typ. @ 29.5 GHz (excl. radome)   |
| Receive Gain                        | 44.0 dBi typ. @ 19.7 GHz (excl. radome)   |
| System G/T                          | 20.1 dB/K typ. @ 19.7 GHz, at ≥10° elevation and clear sky (incl. radome)                 |
| BUC output power                    | 5 W GX BUC  |
| EIRP                                | ≥53.5 dBW (incl. radome) MAX. 36.0 dBW/40KHz  |
| LNB                                 | GX Ka single band LNB   |
| Tracking Receiver                   | Internal "all band/modulation type" including e.g. power, DVB-S2, GSC and modem RSSI      |
| Polarisation                        | Circular Cross-Pol (Inmarsat GX, TX: RHCP, RX: LHCP)                                      |
| Elevation Range                     | -25° to +125°   |
| Azimuth Range                       | Unlimited (Rotary Joint)  |
| Ship motion, angular                | Roll +/-30°, Pitch +/-15°, Yaw +/-10°   |
| 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               | 1.4 m / 55.1" to EN60945  |
| Maintenance, scheduled              | None  |
| Maintenance, unscheduled            | All electronic, electromechanical modules and belts are replaceable through service hatch |
| 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)               | Height: H 150 cm / 58.9"<br>Diameter: Ø 130 cm / 51.3"                                    |
| Weight                              | 126 Kgs. / 276 lbs.   |

## ANTENNA CONTROL UNIT (ACU)

|                           |   |
|---------------------------|---|
| Dimensions, Rack Mount    | 1U 19" ACU<br>HxWxD: 4.4 x 48 x 33 cm<br>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 Ω) w. automatic cable loss compensation<br>2 x F-Connectors (75 Ω) for Rx / Tx to Modem<br>1 x Ethernet (Modem Control)<br>1 x RS-422 (Modem Control)<br>1 x RS-232 (Modem Control)<br>1 x NMEA 0183 (RS-422 or RS-232) for Gyro/GPS Compass input (future NMEA2000)<br>2 x Ethernet (User)<br>1 x Ethernet (ThraneLink, service, set-up etc.)<br>1 x DC Power Input<br>1 x Grounding bolt |
| Input power               | 20 - 32 VDC, 370 W peak, 175 W typ  |
| Modem interface (control) | Generic, OpenAMIP, Custom protocol  |
| Display                   | 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  |

## GX MODEM UNIT (GMU)

|                           |  |
|---------------------------|--|
| GMU Dimensions            | 1U 19" Rack Mount<br>HxWxD: 4.4 x 48 x 33 cm<br>HxWxD: 1.75" x 19" x 13"   |
| Weight, Rack Mount        | 4.5 kgs. / 10 lbs.   |
| Modem type                | iDirect/Inmarsat GX Core Module based  |
| Interfaces                | 2 x F-Connectors (75 Ω) for Rx / Tx to ACU<br>1 x LAN connector for control and user data - Routes through ACU<br>1 x RS-422 Data (Modem Control)<br>1 x RS-232 Data (Modem Control)<br>1 x RS-232 Modem console<br>1 x Universal AC input<br>1 x Grounding bolt |
| Input power               | 90 - 264 VAC   |
| Modem interface (control) | OpenAMIP, RS422 & RS232  |
| Display                   | Web MMI, ON/OFF switch and Power LED   |
| Temperature control       | Built-in fan and heater  |

## BDU (ACU + GMU)

|                       |   |
|-----------------------|---|
| Humidity              | EN60945 Protected, 95% (non-condensing) |
| IP class              | IP30                                    |
| Compass safe distance | 0.1 m to EN60945                        |

For further information please contact:

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