



OceanTRx™ 7

2.2m (87") Maritime Stabilized VSAT System





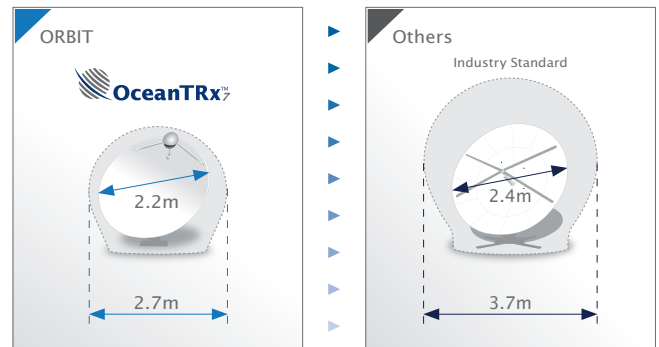
The simple way to deliver mission-critical broadband services

OceanTRx 7 is an innovative platform supporting a variety of 2.2m stabilized maritime antenna system configurations – and the only one to do so in C, X, Ku and Ka (wideband and O3b) frequency bands. Designed to accommodate the current and future broadband needs of the maritime market, OceanTRx 7 combines exceptional RF performance and system availability with an extraordinarily small footprint. Supporting the mission and business-critical broadband application needs of naval and commercial rigs and vessels, it was designed for one-day deployment and simple ongoing updates and maintenance. Orbit’s maritime platform enhances operational productivity, reduces expenses and increases profitability.

Revolutionary space- and cost-saving design

Unmatched low-cost shipping and rapid installation

Small enough to be shipped as a single, fully assembled unit in a standard 20-ft container, OceanTRx 7 drastically reduces shipping costs. Its 2.2m (87”) dish and 2.7m radome occupy 40% less deck space and weigh 30% less than industry-standard systems. Arriving at its destination pre-assembled, and pre-tested via satellite, the system features a unique six-piece radome that can be assembled in a matter of hours, rather than days. The use of a single multiplexed coax cable further facilitates system set-up. This means that OceanTRx 7 can be installed while ships are on routine port calls, substantially driving down operational costs and eliminating the need for vessels to await dry dock.



Cost-effective operations

Designed for efficient on-board serviceability and maintainability, OceanTRx 7 features a highly accessible pedestal design, enabling convenient service support and field upgrades without the need for periodic balancing. It shares common electronic Field Replaceable Units (FRUs) with its counterpart, Orbit’s OceanTRx 4, allowing for lower cost of ownership, easier maintenance and support and shorter response times. With the industry’s best RF performance-to-size ratio, the platform leverages cutting-edge modem technologies such as Adaptive Coding Modulation (ACM). It optimizes satellite usage for unmatched system availability and connection uptime via a 2.2m (87”) multiband antenna.

High versatility and multiple configurations

Built-in support – for a wide range of configurations, RF packages, frequency bands and modem platforms, as well as up to 200W Block Up Converter (BUC) power levels – facilitates field upgradability without the need for accurate balancing. The system is available with, or without, air-conditioning and supports dual- or triple-system operation. The radome is available in a wide variety of colors.

* Upon release

The Orbit advantage

Highly efficient VSAT system

Dual offset Gregorian multiband antenna meets all satcom regulations and reduces service costs

Finest stabilized accuracy

Withstands extreme sea conditions and meets the most stringent maritime environmental requirements

Seamless global coverage

OceanTRx 7 ensures worldwide connectivity by supporting C, X, Ku and Ka (wideband and O3b) frequency bands and by using optional RF feeds for GEO or MEO satellites. Leveraging satellites across geographical regions, it delivers seamless global coverage via Automatic Beam Switching (ABS) using industry-standard OpenAMIP and ROSS Open Antenna Management (ROAM) protocols. Electrically switchable polarization facilitates satellite switching and enhances system versatility.

Remote monitoring

Advanced remote monitoring capabilities allow complete replication of the system interface to any remote PC. Combined with an inherent logger and spectrum analyzer, OceanTRx 7 enables off-site technicians to remotely monitor and control the system. They can also perform troubleshooting or diagnostics operations as if they were aboard the vessel, thus substantially reducing operational costs. Open platform design supports the use of Simple Network Management Protocol (SNMP) for carrying out network and system management, while enabling system integration with any Network Operations Center (NOC). A secured remote connection is also available for software upgrades.

Strict regulatory compliance

OceanTRx 7 complies with industry regulations and standards including ITU, FCC, ETSI, EutelSat, IntelSat, ANATEL and Mil-STD188-164B.

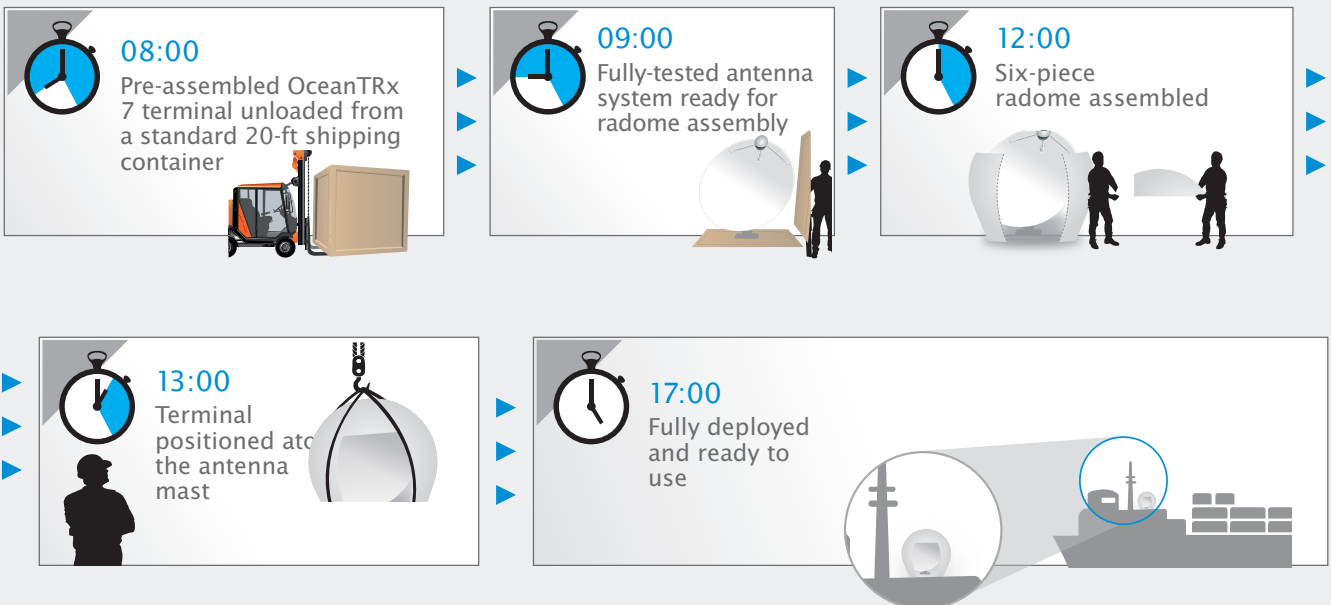
World-class customer support

With five regional service centers located around the globe, Orbit's trained support engineers are available 24/7 to handle the immediate needs of customers worldwide. A global inventory replenishment system ensures efficient spare parts distribution across regions. With a remote connection for troubleshooting and diagnostics, Orbit expedites service support and enhances overall cost-efficiency for its customers.

Covering diverse maritime sectors

- Naval
- Offshore Oil & Gas (O&G)
- Leisure and super yachts
- Commercial shipping

Full system deployment in a day



> Simple, one-day installation

Delivered fully assembled and tested, built-in multiband frequency support and field-upgradable configurations

> World-class customer support

Orbit's global support team provides 24/7 service with remote monitoring capabilities and on-site technical support

OceanTRx™ 7 - Features and Specifications

Features

Antenna Type	Dual offset Gregorian	Modem Interface	L-Band
Antenna Size	2.2m (87")	System Weight (including radome, RF dependent)	< 590 kg (1,300 lb)
Radome Size	2.7m (106") D, 2.6m (102") H	Environmental Conditions Compliance	<ul style="list-style-type: none"> Shock & Bump: MIL-STD-810F Vibration: MIL-STD-167-1A (mast-mounted equipment) Temperature: -25°C+55°C as per IEC 60945:2002 Wind: Up to 100 knots Rain & Spray: IEC 60945 Section 8.8/IP Rating X6 Humidity: IEC 60945:2002; Damp Heat Humidity: 93% (+/-3%) @ 40°C Safety: IEC EN 60950-1 EMC: Conducted & Radiated Emission Immunity; IEC 60945:2002; IEC 61000-4-2, 3, 4, 5, 6, 11
Dynamic Accuracy	0.25dB RMS		
Dynamics (motion on a 80m ship as per DOD-STD-1399-301A)	Tracking: Up to Sea-State 6 Survival: Up to Sea-State 8		
Range of Mechanical Pedestal Axes	Azimuth: Continuous Elevation: -30° to +120° Cross Elevation: -30° to +30°		
Ship Gyro Interface	NMEA 0183, Step by Step, Synchro		

Specifications

	C-Band Circular	C-Band Linear	X-Band	Ku-Band	Ka-Band (O3b)	Wide band Ka
Frequency Transmit	5.850 to 6.425 GHz	5.850 to 6.725 GHz	7.9 to 8.4 GHz	13.75 to 14.50 GHz	27.6 to 29.1 GHz	29 to 31 GHz
Frequency Receive	3.625 to 4.200 GHz	3.400 to 4.200 GHz	7.25 to 7.75 GHz	10.7 to 12.75 GHz	17.8 to 19.3 GHz	19.2 to 21.2 GHz
Polarization Control	RHCP/LHCP Electrically Switchable	HOR/VER Electrically Switchable	RHCP/LHCP Electrically Switchable	HOR/VER Electrically Switchable	RHCP/LHCP Electrically Switchable	RHCP/LHCP Electrically Switchable
XPD (Typical in Tx)	27 dB	30 dB	19 dB	30 dB	27 dB	27 dB
System G/T (Typical at mid-range including all losses)	16.6 dB/°K	16.6 dB/°K	19dB/°K	24 dB/°K	24.2dB/°K	24.5 dB/°K
System EIRP (Typical at mid-range including all losses)	57 dBW (with 80W BUC)	57 dBW (with 80W BUC)	53 dBW (with 20W BUC)	59 dBW (with 25W BUC)	64 dBW (with 20W BUC)	64.3 dBW (with 20W BUC)
Antenna Type/Size	Dual Offset Gregorian 2.2m					
Dynamic Accuracy under Sea Motion	0. 25dB RMS					
BUC Size Options	20W/40W/80W /100W/200W	20W/40W/80W /100W/200W	20W/40W/80W	16W/25W/40W/100W	20W/40W	10W/20W/40W /60W
Radome Size Diameter/Height	2.7m/2.6m					
Power Requirements Typical ADE & BDE 100-130VAC or 200-250VAC 50/60Hz	ADE (maximal current consumption from the main power supply 115VAC / 230VAC) <ul style="list-style-type: none"> Without the BUC: 2A / 1A (respectively), Power Consumption: 230W For 200W C-Band: 8A / 4A (respectively), Power Consumption: 920W BDE: 100W 					
Weight Typical	590kg					

Registered Patent: US 8,648.748 B2

OceanTRx™ 7 Typical Block Diagram

