



OrBand™

2.2m (87") C-Band/Ku-Band Maritime Stabilized VSAT System



Maritime C-band
will never be the same...



Changing the Rules of the Game

OrBand™ AL-7107 is a revolutionarily compact C-band system that offers industry-standard RF performance equivalent to a 2.4m/95" dish in just a 2.7m/106" footprint. OrBand™ sets a new benchmark for rapid, low-cost installation of C-band systems, while providing robust global operations and outstanding system availability. Delivering always-on broadband connectivity, the highly versatile OrBand™ system enables mission-critical, data-hungry applications that enhance operational productivity and crew welfare, lower expenses, and increase profitability for owners and operators of commercial and defense vessels worldwide.

The key to OrBand™'s breakthrough is an extraordinarily-small footprint with outstanding RF performance and support of multiple optional RF feeds. Featuring a 2.2m/87" dish and 2.7m/106" radome, OrBand™ takes up 40% less deck space than industry-standard 2.4m/95" and 3.8m/150" systems, and is more than 30% lighter than competitive solutions. Thanks to its revolutionary footprint and unique design, OrBand™ opens the door to C-band for myriad customers.

Offering Multiple Advantages

Rapid low-cost shipping and installation: Small enough to be shipped as a single, fully assembled unit in a standard 20-foot container, OrBand™ drastically lowers shipping costs. Moreover, OrBand™'s compact footprint ensures rapid, low-foot installation. Arriving at its destination already pre-assembled and tested, the system features a unique six-piece radome enabling final assembly and installation in a mere matter of hours – a fraction of the 2-3 days typically required by equivalent solutions. Designed with just one multiplexed coax cable, OrBand™ further facilitates system set-up. Easy and rapid installation also means that OrBand™ can be deployed 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: Offering the industry's best RF performance-to-size ratio, OrBand™ leverages cutting-edge technologies such as adaptive coding modulation (ACM) to enable efficient satellite usage.

High versatility and multiple configurations: The highly versatile OrBand™ seamlessly supports all C/Ku-band frequencies and optional RF feeds, and is offered in several block upconverter (BUC) power levels of 20W, 40W or 100W. The system is available with or without air-conditioning, and comes with either a gray or white radome.

Global coverage: OrBand™ ensures worldwide connectivity by supporting the full range of C/Ku-band frequencies and optional RF feeds including:

- C-band linear (V/H) electrically switchable
- C-band circular (RH/LH) electrically switchable
- C-band linear (V/H) and circular (RH/LH) electrically switchable
- Ku-band linear (V/H) electrically switchable

Operating with satellites across geographical regions, OrBand™ supports automatic beam switching (ABS) for seamless global coverage through the industry-standard OpenAMIP protocol. Electrically switchable polarization facilitates satellite switching and increases system versatility.

Remote monitoring, diagnostics and troubleshooting: Equipped with advanced remote monitoring capabilities, the OrBand™ system interface can be fully replicated to any remote PC, enabling off-site technicians to remotely monitor and operate the system or carry out diagnostics as if they were on the vessel. This, in turn, maximizes system uptime and optimizes performance, while reducing operational costs. OrBand™ is designed as an open-standard platform that utilizes the SNMP protocol for carrying out network and system management, while enabling system integration with any network operations center (NOC).

Unmatched system availability: Featuring optimized dual-offset Gregorian antennas and an advanced RF design that are coupled with superior stabilization and tracking algorithms, OrBand™ maximizes connection uptime and outperforms the industry standard.

Strict regulatory compliance: OrBand™ complies with all industry regulations and standards of major satellite operators including Intelsat, Eutelsat and Anatel.

World-class customer support: Orbit supports the needs of OrBand™ customers worldwide via a three-tier service structure operated by the company's global network of hundreds of trained support engineers/technicians and regional service centers.

Covering Diverse Maritime Sectors

- Oil & Gas (O&G)
- Commercial Shipping
- Defense (Navy/Coast Guard)
- Leisure

About Orbit Maritime Satcom Solutions

Orbit Communication Systems provides high-performance maritime satellite communications solutions for mission-critical applications.


With decades of experience and thousands of systems operating worldwide, Orbit's innovative and reliable VSAT and TVRO solutions deliver broadband data communications and TV reception to users across the globe. Orbit's robust marine-stabilized solutions, backed by a worldwide support network, support the broadband communications needs of offshore oil & gas, commercial shipping, and naval applications.

Full System Deployment in a Day

08:00
Pre-assembled OrBand™ antenna system is unloaded from standard 20 foot shipping container



09:00
Fully tested OrBand™ antenna system is ready for radome assembly



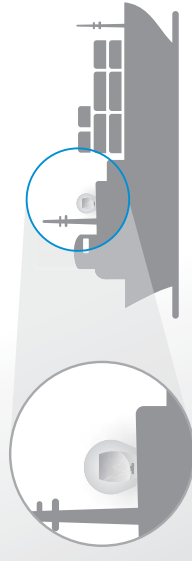
12:00
OrBand™ radome, comprised of five petals and one top, is assembled



13:00
OrBand™ system is lifted onto the antenna mast



17:00
OrBand™ system is fully deployed and ready to operate



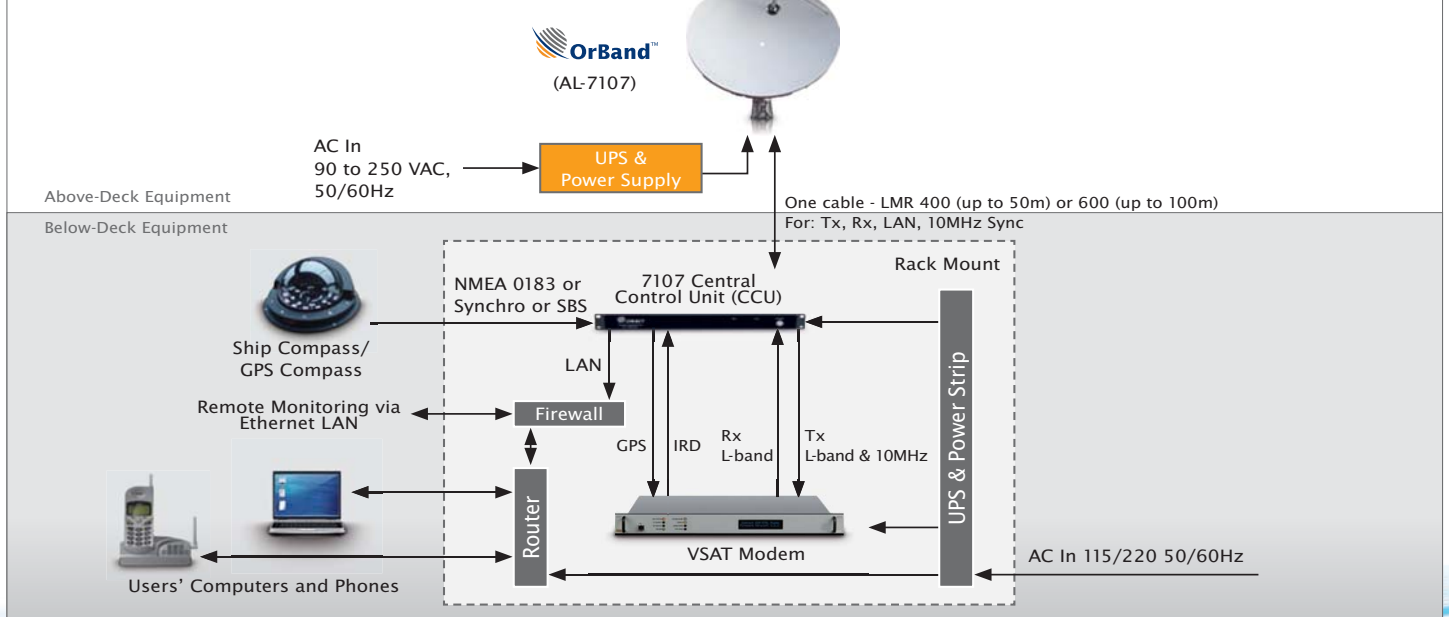
OrBand™ AL-7107 Features & Specifications

Antenna Type	Dual-offset Gregorian
Antenna Size	2.2m (87")
Radome Size	2.6m (102") H, 2.7m (106") D
Weight	590 kg (1,300 lb) (including radome and 20W BUC)
Dynamics	Roll: 30° @ 8 sec Pitch: 15° @ 6 sec Yaw: 80° @ 50 sec
Ship Gyro Interface	NMEA 0183, Step-by-Step, Synchro
Modem Interface	L-band
Environmental Condition Compliance	<ul style="list-style-type: none"> Shock: MIL-STD 810E Method 516.5 Pro.I Vibration: MIL-STD-167-1 (mast mounted equipment) Temperature: -25°C+55°C as per IEC 60945:2002 Wind: Up to 100 knots Humidity: IEC 60945:2002; Damp Heat Humidity: 93% (+/-3%) @ 40°C Safety: EN 60204-1; ISO 12100-2; EN 614-1; IEC 60945:2002 EMC: Conducted & Radiated Emission Immunity; IEC 60945:2002; IEC 61000-4-2,3,4,5,6,11
Power Requirements	<ul style="list-style-type: none"> ADE: 90-130VAC or 200-250VAC 50/60Hz (auto ranging), 750W RMS (20W BUC) BDE: 90-130VAC or 200-250VAC 50/60Hz (by switch), 100W RMS

Operation Frequency	C-band Linear • Tx: 5.850GHz – 6.725GHz • Rx: 3.400GHz – 4.200GHz C-band Circular • Tx: 5.850GHz – 6.425GHz • Rx: 3.625GHz – 4.200GHz Ku-band • Tx: 13.75GHz – 14.50GHz • Rx: 10.70GHz – 12.75GHz
Optional RF Feeds & Antenna Polarization	<ul style="list-style-type: none"> C-band linear (V/H) C-band circular (RH/LH) C-band linear (V/H) and circular (RH/LH) Ku-band linear (V/H) All polarizations are electrically switchable
Antenna System G/T (typical)	19.3dB/K @ 3.95GHz (clear sky, 20° elevation)
Radome Loss (typical)	0.6dB
System EIRP (typical)	49.8dBW @ 6.150GHz (with 20W BUC) 52.8dBW @ 6.150GHz (with 40W BUC)
Cross-Pol Discrimination (STD C-band)	Linear Tx > 30dB; Rx > 30dB Circular Tx > 27.3dB; Rx > 17.7dB
BUC Options	C-band: 20W, 40W, 100W; Ku-band: 8W, 16W, 40W
Side-Lobe Level Compliance	<ul style="list-style-type: none"> ITU S.465 & Intelsat IESS601 C-band Co-Pol Side Lobes EESS-502 C-band Anatel #364 C-band FCC 25.221 C-band

Specifications are subject to change without prior notice

OrBand™ Block Diagram



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