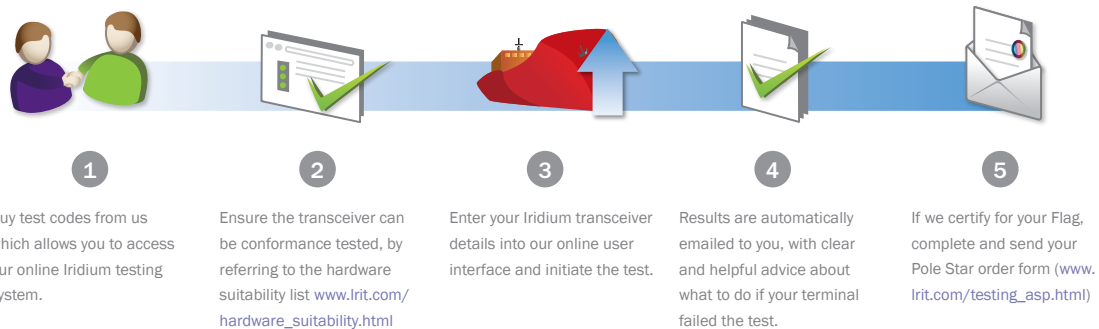




IRIDIUM LRIT CONFORMANCE TESTING

The introduction of the Long Range Identification and Tracking (LRIT) amendment to SOLAS V/19 requires all operators of ships engaged on international voyages, including passenger ships, cargo ships of 300 gross tonnage and above, and Mobile Offshore Drilling Units (MODUs) to provide tested and certified shipborne equipment for the transmission of LRIT information. For full details see www.lrit.com.

Five simple steps to testing



What do I have to do?

Compliance with LRIT is important. Some governments have indicated that they may not grant entry to their territorial waters, or to their ports, for ships that do not comply with LRIT.

For vessels operating in Sea Area A4, Iridium LRIT solutions are the only LRIT-compliant option currently available.

Ship operators are required to provide shipborne equipment which complies with the LRIT regulation, pass a conformance test and obtain a Conformance Test Report (CTR). All shipborne LRIT equipment must be tested and certified by an Authorised Testing Application Service Provider (ASP) appointed by your Flag. Authorised Testing ASPs will also, on behalf of most Flags, be able to issue CTRs for transceivers that pass the test.

Where to Buy:

Mackay Communications, Inc.

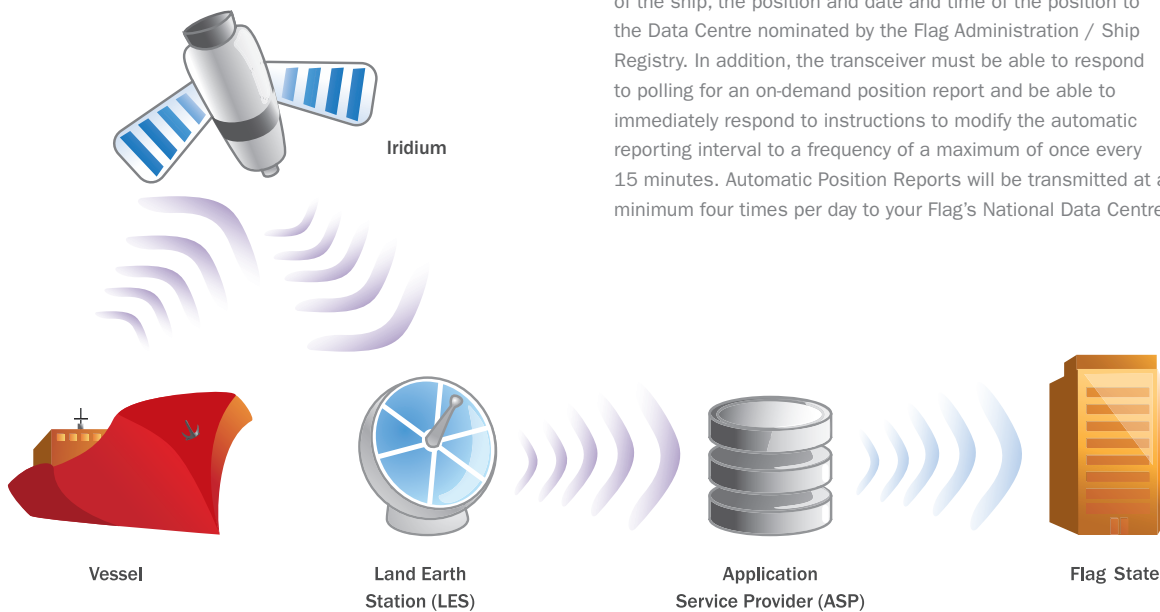
3691 Trust Drive
Raleigh, NC 27616 USA
Tel: 1-919-850-3100
Email: satserv@mackaycomm.com
www.mackaysatellite.com

Mackay Marine

Division of Mackay Communications
Tel: 281-479-1515
MarineSales@mackaycomm.com
Government buyers or contractors, contact:
government@mackaycomm.com or 904-880-4633

LRIT system architecture

The ship operator's obligation under the LRIT regulation is to ensure provision of compliant equipment to transmit the identity of the ship, the position and date and time of the position to the Data Centre nominated by the Flag Administration / Ship Registry. In addition, the transceiver must be able to respond to polling for an on-demand position report and be able to immediately respond to instructions to modify the automatic reporting interval to a frequency of a maximum of once every 15 minutes. Automatic Position Reports will be transmitted at a minimum four times per day to your Flag's National Data Centre.



Why test with Pole Star?

We understand the LRIT system and what is required. We attend and contribute to the relevant IMO COMSAR, NAV, MSC, Engineering and Working Group meetings. We work with all the major satellite equipment manufacturers, communications service providers, land earth station operators, Iridium and other satellite communication network providers to ensure that the LRIT system works end-to-end. Pole Star is an LRIT Data Centre Administrator and an Authorised Testing ASP for over 90 Flags. See www.lrit.com for the latest information.

Pole Star's system manages all aspects of the test, including: terminal commissioning, satellite communications network management, post-test decommissioning, production of a detailed test result and provision of a Conformance Test Report if required. Testing of shipborne Inmarsat C equipment began in July 2008 and we have conducted over 40,000 tests since then.

Our technical capability is backed up by a professional, multilingual customer support team with offices in both Hong Kong and the United Kingdom. Ship operators who test their LRIT transceivers with Pole Star will also be offered a free trial of our commercial Fleet Management product.

Why test now?

The vessel shows its compliance with the regulation by having onboard a valid CTR, issued on behalf of their Flag, in accordance with the provisions of MSC.1/Circ.1307 on Guidance on the survey and certification of compliance of ships with the requirement to transmit LRIT information.

A vessel must show compliance by the date of its first survey after 31 December 2008 or at change of Flag (considered the first survey after 31 December 2008).

Although a number of Flag States have yet to implement their operational LRIT Data Centre as required by Regulation V/19-1, in order to prevent Port State Controls from penalising ships of these Flags, the IMO's Maritime Safety Committee has approved transitional arrangements for the compliance of vessels.

This means that as long as the vessel has complied with its LRIT obligation (provided a tested and certified transceiver in advance of the radio survey date) within the deadline, it cannot be sanctioned for matters outside its control. With this in mind, ship operators are advised to test their transceivers in good time.

User will receive test codes upon receipt of payment. The interface allows the user to check the progress of a test, as well as the test results.

The screenshot displays the 'Pole Star LRIT Conformance Test for Iridium' web interface. The main page shows a 'Test Transceiver' section with a summary of test details. A 'Create New Test' pop-up window is overlaid on the left, prompting the user to enter their Pole Star test code. The main page also shows a 'Vessel Details' section with various fields and a 'Transceiver Details' section with fields for Test Result, Make, Model, Serial Number, and IMEI Number. A 'Self Certification Requirements' section is at the bottom, listing several conformance tests with green checkmarks indicating compliance.

User Details	
Company Name	Pole Star
Contact Name	D Jones
Contact Email	wong@polestarglobal.com
Test Code	30041061

Vessel Details	
Stjernesrud	
9398765	
Copenhagen	
Denmark	
298875462	
VH126	
333333.00	
A1 + A2 + A3 + A4	
Cargo ship safety radio certificate	

Sea Area Certificate Reference	
Sea Area Certificate Reference	3432423
Last Radio Survey Date (YYYY-MM-DD)	2009-07-03

Transceiver Details	
Test Result	Test in progress
Transceiver Make	Thorium
Transceiver Model	LRIT-TST 100
Manufacturer Serial Number	TST3423439
Transceiver IMEI Number	435345349034543

Self Certification Requirements	
Conformance Test Number 8 This equipment is an Iridium terminal and therefore is compliant with provisions of resolution A.694(17) and the equipment has been tested for electromagnetic compatibility (refer to resolution A.813(19))	✓
Conformance Test Number 11 This equipment has an internal GPS	✓
Conformance Test Number 12 This equipment is supplied with energy from the main and an emergency source of electrical power	✓
I confirm the above information is correct	✓

How to test

We provide a secure web-based system where ship operators can initiate tests at their convenience and review the progress and status of their tests. The system provides error messages and suggests corrective action on failed equipment.

Once you have gathered the required vessel and equipment information, our intuitive application allows you to enter your vessel details swiftly and initiate your test. The results will be emailed to you as soon as the test is complete.

CONFORMANCE TEST REPORT
issued under the provisions of MSC.1/Circ.1307 on Guidance on the survey and certification of compliance of ships with the requirement to transmit LRIT information
 Issued by Pole Star Space Applications Limited
 on behalf of THE GOVERNMENT OF

Name of ship	
Port of registry	
Distinctive number or letters	
IMO Number	
Maritime Mobile Service Identity	
Gross tonnage	
Sea areas in which the ship is certified to operate	
Sea areas for which this report is valid	
Application Service Provider conducting the test	

THIS IS TO CERTIFY that the shipborne equipment tested to transmit LRIT information and specified below:

- has been found to meet the requirements of paragraph 4 of regulations V/19.1.6 and V/19.1.7 and of the Revised performance standards and functional requirements for the transmission and tracking of ships adopted by resolution MSC.263(84) and:
 - 1. is of a type approved by the Administration in accordance with the provisions of regulation V/19.1: Yes No
 - 2. is of a type approved by the Administration in accordance with the provisions of regulation IV/14: Yes No
- has been certified by the Administration as meeting the requirements of IEC 60945 (2002-08) and IEC 60945 Corr.1 (2008-04) on Maritime navigation and radiocommunication equipment and systems – General Requirements – Methods of testing and required test results: Yes No
- has been certified by the Administration as complying with the provisions of regulation XI/2/6; and of resolution MSC.247(77) on Adoption of the Revised performance standards for a ship security alert system / resolution MSC.147(77) on Adoption of the Revised performance standards for a ship security alert system¹: Yes No
(¹ Delete as appropriate.)

2. has undergone conformance testing in accordance with the procedures and provisions set out in MSC.1/Circ.1307, and has shown that it can operate within the tolerances of the acceptance criteria stated in the above-said circular.

The conformance test was satisfactorily completed on _____

Details of the shipborne equipment used to transmit LRIT information:
(e.g., make, model, serial number and shipborne equipment identifier)

Issued in London, United Kingdom on _____

No: _____

ANNEX – CONFORMANCE TEST RESULTS AS PER TABLE 2 OF APPENDIX 1 MSC.1/CIRC.1307

CTN	Test requirement	Results
EL1	The equipment is activated into the ASP system	Pass
1	Establish the sea areas the ship is certified to operate from the Cargo Ship Safety Radio Certificate, Cargo Ship Safety Certificate, Passenger Ship Safety Certificate or equivalent	Pass
2	The equipment automatically transmits an LRIT information	Pass
3	The equipment identity is present in the received LRIT information	Pass
4a	The latitude and longitude is present in the received LRIT information	Pass
4b	The equipment GNSS position information is based upon the WGS84 datum	Pass
5a	The date and time is present in the received LRIT information	Pass
5b	The equipment date and time information is in UTC	Pass
5c	The equipment transmits a Time Stamp relative to when the position was generated (not the CSP receipt time)	Pass
6	The equipment is of a type approved by the Administration	Pass
7	The equipment is switched off on board or ceases the distribution of LRIT information	Pass
8	The equipment is compliant with respect of resolution A.694(17). The equipment has been tested for electromagnetic compatibility (refer to resolution A.813(19))	Pass
9a	The equipment is required to automatically transmit LRIT information at 15 minute intervals	Pass
9b	The equipment is required to automatically transmit LRIT information at 60 minute intervals demonstrating that a change in transmitting interval has been successfully achieved	Pass
9c	The equipment automatically transmits a LRIT information at 6 hour intervals	Pass
9d	The equipment is required to automatically transmit LRIT information at 24 hour intervals	Pass
9e	LRIT information is available within 15 minutes of the time it is transmitted by the ship	Pass
10	The equipment transmits LRIT information (subsequent to the ASP issuing a poll command) and the LRIT information is available within 30 minutes of the time the ASP has requested the information	Pass
11	The equipment interfaces directly to the shipborne global navigation satellite system equipment, or has internal positioning capability	Pass
12	The equipment is supplied with energy from the main and emergency source of electrical power (this provision does not apply to Inmarsat-C)	Pass
13	The equipment automatically transmits LRIT information via the CSP to the ASP in a reliable and secure manner	Pass
EL2	The equipment is de-activated and released from the LRIT system	Pass

How do I get a certificate?

Pole Star can issue LRIT Conformance Test Reports (CTRs) on behalf of most Flags. Your LRIT CTRs will be dispatched as a scan by email, and as a hard copy by courier within 3 days of receipt of payment. Please refer to www.lrit.com/testing_asp.html to find the latest list of Flags we certify for.

If your Flag is issuing CTRs, Pole Star will forward all successful test results directly to your Flag.

Information on survey and certification

It is important to note that an existing ship safety radio certificate does not confer LRIT compliance on the ship. MSC.1/Circ.1307 regarding Guidance on the survey and certification of compliance of ships with requirement to transmit LRIT information states that compliance of the shipborne equipment with the regulation should be demonstrated by the equipment being:

- of a type approved by the Administration in accordance with the provisions of regulation V/19-1 and section 4 of the revised performance standards; or

What should I do if my equipment fails the test?

In the event that your shipborne equipment fails the LRIT conformance test, please refer to your hardware supplier/manufacturer. If you require replacement Iridium LRIT equipment, Pole Star would like to recommend the **BlueTraker®LRIT** device, manufactured by E.M.A as a cost-effective Iridium LRIT compliance solution.

- certified by the Administration as meeting the requirements of regulation IV/14 and satisfactorily completing a conformance test; or
- certified by the Administration as meeting the requirements of IEC 60945 (2002-08) and IEC 60945 Corr.1 (2008-04) on Maritime navigation and radiocommunications equipment and systems – General Requirements – Methods of testing and required test results and satisfactorily completing a conformance test.

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