



Office of
Deputy Commissioner
of Maritime Affairs

THE REPUBLIC OF LIBERIA
LIBERIA MARITIME AUTHORITY

Marine Notice

ISP-003
Rev. 04/20

TO: ALL SHIPOWNERS, OPERATORS, MASTERS AND OFFICERS OF MERCHANT SHIPS AND AUTHORIZED CLASSIFICATION SOCIETIES, LIBERIAN RO's, LIBERIAN AUTHORIZED TESTING APPLICATION SERVICE PROVIDERS (ASP's) AND RECOGNIZED ASP's, LIBERIAN NAUTICAL INSPECTORS AND AUDITORS

SUBJECT: LONG RANGE IDENTIFICATION AND TRACKING OF SHIPS (LRIT)

Supersedes: Marine Notice ISP-003 dated 6/12

PURPOSE:

This Marine Notice provides guidance on implementation, maintenance and compliance with the requirements for Liberian flag ships to transmit Long Range Tracking and Identification (LRIT) information.

This Notice provides an overview and clarification of the LRIT requirements in relation to:

- ship terminal LRIT conformance testing; and
- ship survey and certification.

1.0 Background

1.1 The International Maritime Organization (IMO) adopted an amendment to Chapter V of the International Convention for the Safety of Life at Sea 1974 (SOLAS) Regulation V/19-1 that introduced mandatory position reporting obligations for SOLAS ships. Called Long Range Identification and Tracking (LRIT), the system will require vessels to automatically, transmit their identity, position and date/time at 6-hour intervals. SOLAS Contracting Governments will bear all costs of the system. The SOLAS amendment presented in **MSC Resolution 202(81)** came into force on 1 January 2008 with compliance by 31 December 2008.

1.2 LRIT is a significant initiative by the International Maritime Organization to address the many issues presented by the need to respond to achieving maritime domain awareness - specifically the safety, security and environmental aspects.

1.3 Long Range Identification and Tracking (LRIT) of ships is a maritime security initiative that allows SOLAS Contracting Governments to request and receive position reports from

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vessels operating under their flag and to request and receive position reports of other flagged vessels indicating intentions to enter a port under their jurisdiction and vessels operating within 1000 nautical miles of their coast. In addition to enhancing maritime security, the regulations also allow LRIT to be used for search and rescue. LRIT information will be automatically transmitted from shipborne equipment to Liberia's National Data Center (NDC) where it will be stored until it is requested.

- 1.4 All Liberian registered ships will send data to the NDC via the Recognized ASP. The Liberian Administration has appointed Polestar Space Applications Limited to operate the Liberian NDC on its behalf. Owners of Liberian flagged vessels will incur no costs associated with the transmission and receipt of the position reports required by LRIT.
- 1.5 The LRIT information ships will be required to transmit include the ship's identity, location and date and time of the position. There will be no interface between LRIT and AIS. One of the more important distinctions between LRIT and AIS, apart from the obvious one of range, is that, whereas AIS is a broadcast system, data derived through LRIT will be available only to the recipients who are entitled to receive such information and safeguards concerning the confidentiality of those data have been built into the regulatory provisions. SOLAS Contracting Governments will be entitled to receive information about ships navigating within a distance not exceeding 1000 nautical miles off their coast.
- 1.6 **MSC Resolution 263(84)** was adopted on 16 May 2008, as amended by resolution MSC.330(90), to describe the performance standards and functional requirements of the equipment installed to meet the requirement for the Long-Range Identification and Tracking of ships.
- 1.7 **MSC Resolution 361(92)** was adopted on 21 June 2013, with provisions for the operation of the International LRIT data exchange after 2013.
- 1.8 **FAL.2/Circular.131** issued on 19 July 2017 and **FAL.2/Circ.131/Corr.1** issued 4 June 2018, included the LRIT Conformance Test report as a document required to be carried on board ships see also Liberian Marine Notice **ADM-007**.

2.0 Applicability

2.1 The LRIT equipment is applicable to the following Liberian registered vessels engaged on international voyages:

- Cargo ships, including High Speed craft of 300 gross tonnage and above,
- Passenger ships, including High Speed passenger craft,
- Mobile Offshore Drilling Units (MODU) that are propelled by mechanical means,
- Offshore Support Vessels, Special Purpose Ships and Mobile Offshore Units (MOU) of 300 gross tonnage and above that are propelled by mechanical means,
- Commercial yachts of 300 gross tonnage and above.

2.2 Ships, irrespective of the date of construction, fitted with an automatic identification system (AIS), as defined in SOLAS Chapter V, Regulation 19.2.4, and operated exclusively within sea area A1, as defined in SOLAS Chapter IV, Regulation 2.1.12, are not required to comply with the provisions of SOLAS Chapter V, Regulation 19-1. Therefore, exemption certification from the requirement to comply with SOLAS Chapter V, Regulation 19-1 is not required in this case.

The Liberian Administration will be guided by the principles outlined in [MSC.1/Circ.1295](#) in determining the application of the LRIT requirements for the following ships/unit:

- .1 Mobile and immobile offshore units, including Floating Productions Storage & Offloading units (FPSO), Floating Storage Units (FSU), Single Buoy Mooring (SBM), units issued with Liberian Mobile Offshore Drilling Unit (MODU) certificate, and vessels issued with Liberian Mobile offshore Unit (MOU) Certificates,
 - .2 Special Purpose Ships, and
 - .3 Offshore Support vessels.
- 2.3 These vessels should comply with the LRIT requirements if they are 300 gross tonnage or above, propelled by mechanical means, engaged on international voyages outside GMDSS sea area A1 or not fitted with AIS and engaged in voyages within GMDSS sea area A1.
- 2.4 Mobile and immobile units which are operating solely within the territorial waters of a specific country should liaise with the Government of that country in order to provide information (position and expected time in location) on the vessel.
- 2.5 Mobile and immobile units which are fitted with LRIT equipment should notify the Administration when they are moored on site and the expected period that the unit will be moored as the frequency of LRIT data may be reduced by the Administration. The Administration should then be notified when the unit is to undertake a voyage from the moored location. All notification shall be recorded in the unit's Official Log Book.
- 2.6 For the purpose of the Administrations requirements for LRIT and notwithstanding the definitions provided in the SOLAS regulations and IMO guidelines, the following terms are deemed to apply:
- Company is the entity responsible for the management of the ship in accordance with the ISM Code. For ships which the ISM Code is not applicable, the Company is the Managing Owner.

- Conformance test result is the document that is issued by the Authorized Testing ASP outlining the results of the conformance test. This document is provided to the Administration in order to obtain a Conformance Test Report (CTR).
- Conformance Test Report (CTR) is the document issued by the Administration to verify that the LRIT equipment has successfully completed a conformance test
- Gross tonnage is the tonnage measured in accordance with the International Convention on Tonnage Measurement of Ships 1969
- International voyage is a voyage that is outside the territorial waters of Liberia and between two or more countries.
- Radio Survey is the survey for Passenger Ship Safety Certificate, Cargo Ship Safety Certificate, High Speed Craft Certificate, Mobile Offshore Drilling Unit Certificate, Cargo Ship Safety Radio Certificate, Cargo Ship Safety Certificate, Mobile Offshore Unit certificate, and any other certificates covering such purposes
- Recognized ASP means an Application Service Provider which has been recognized by the Administration in accordance with the provisions of the IMO revised performance standards. The recognized ASP is assigned to operate the Data Center and to provide a communication protocol interface between the communication Service Provider and the LRIT Data Center.

3.0 Exemptions and Equivalent Arrangements

- 3.1 Vessels that are operating exclusively in a GMDSS A1 sea area and are fitted with AIS are not required to install LRIT equipment. However, such vessels will require an exemption or equivalent arrangement if they engage in an international voyage outside the GMDSS A1 sea area.
- 3.2 Ships/units specified in paragraphs 2.1 and 3.1 above which are not normally engaged in international voyages but are required to undertake a single international voyage or which are re-positioning from a GMDSS sea area A1 should apply to the Administration for consideration of exemption or equivalence in accordance with the provisions of SOLAS Regulations I/4, IV/3.1, IV/3.2 and V/3.
- 3.3 Any application, which is submitted under paragraph 3.2 above, should include details of the proposed voyage, including dates, length of voyage, port/place of departure and port/location of destination.
- 3.4 The Administration will liaise with the Recognized Organization (RO) that issued the affected safety certificate and if the exemption is granted or equivalent arrangement accepted, the Administration will authorize the RO accordingly and advise of any applicable conditions in order that the affected certificate can be duly annotated.
- 3.5 Vessels applying for such exemptions should note that in accordance with the guidelines of MSC.1/Circ.1295, there may be a requirement for the Manager/Owner to submit the voyage plan (and any amendments) or report at specified intervals to not only the Governments where the vessel is proceeding but also Governments of the coast of which the ship might be navigating, subject to those countries being entitled to the information in accordance with the requirements of SOLAS Regulation V/19-1.

4.0 Shipborne LRIT equipment

Owners may utilize any equipment to transmit LRIT information on the provision that the equipment:

- demonstrates compliance with the requirements of SOLAS Regulations V/19-1.6 and V/19-1.7, and the revised performance standards as referenced in IMO Circular [MSC.1/Circ.1307](#), and
- has undergone and passed a satisfactory conformance test. In addition, and if the equipment is being used for another function, e.g. ship security alert system (SSAS) or GMDSS transmission, the equipment shall also comply with the relevant performance standards relating to that function.

4.1 Vessels intending to use existing GMDSS equipment for the purpose of transmitting LRIT information and which, for the purpose of complying with the requirements of SOLAS regulation IV/15.6 in relation to availability, are provided with duplicated equipment, are only required to use one of the sets of duplicated equipment fitted on board for transmitting LRIT information.

4.2 Notwithstanding 4.1 above, if a ship is fitted with more than one transmitting unit (shipboard equipment) that is intended to be utilized for LRIT purposes and integrated into the Liberian LRIT Data Centre, a satisfactory conformance test must be carried out and Conformance Test Report issued for each unit (equipment). Only one of the transmitting units will be registered in the Data Center at a given time to avoid duplication of position reports.

4.3 The Conformance Test Report will be annotated to reflect that the LRIT equipment satisfies the applicable type approval and/or certification in accordance with the applicable requirement of:

- IEC 60945/IEC 60945 Corr.1,
- And if applicable, SOLAS Regulation IV/14, i.e. where a terminal is approved for GMDSS functions

And, if applicable, SOLAS Regulation XI-2/6, i.e. where a terminal is approved for SSAS function.

5.0 Requirement for Conformance Testing

5.1 A conformance test is required for all shipborne LRIT equipment, in order to ensure that the equipment, as fitted onboard, complies with the provisions of SOLAS Regulation V/19-1.6 and the LRIT revised performance standards and functional requirement.

5.2 The conformance test shall be conducted by one of the Liberian Administrations authorized Testing Application Service Provider (Testing ASP) whose details are outlined below:

Pole Star Space Applications Limited
Email: lrittesting@polestarglobal.com
(T) +44 (0)20 7313 7400
(F) +44 (0)20 7313 7401

Fulcrum Maritime Systems Ltd.
Email: enquiries@fulcrum-maritime.com
(T) +44(0)1708 788400
(F) +44(0)1708 788402

TRANSAS Telematics Limited (Transas)/Livewire Connections Ltd.
Email: LRIT.sales@livewire-connections.com
(T): +44(0)208 974 0900
Tech Support: +44 (0)208 974 0940

CLS – Maritime Surveillance Support
Email: lrit.testing@cls.fr
(T) +33 5 61394880
(F) +33 5 61394797

Absolute Maritime Tracking Services Inc.
Email: activations@absolutemaritime.com
(T) +507 3015748
(F) +507 3015749

- 5.3 The conformance test shall be conducted taking into consideration the criteria noted in paragraph 5.1 and in accordance with the provisions of SOLAS Regulation V/19-1.4.1. The conformance test process is as follows:
- .1 Owners of ships subject to SOLAS V/19-1 will need to register the chosen Inmarsat C Mobile Earth Station for testing with the Authorized Application Service Provider.
 - .2 Once registration is complete, an activation code (Data Reporting and Polling Closed Network Identity or DNID) and other supplemental commands will be downloaded automatically to the vessel's chosen Inmarsat C Mobile Earth Station. This will activate the transmissions required for the test.
 - .3 Following activation, there will be a period of testing in line with guidelines contained in MSC.1/Circ.1307. This is necessary to ensure the transmitted data is accurate and reliable. This testing will be carried out remotely by the Authorized ASP. Upon successful completion, a Conformance Test Report will be issued by the Administration. All vessels must hold such a Conformance Test Report to comply with SOLAS V/19-1.
 - .4 Owners of ships with terminals that do not support LRIT will need to either upgrade one of the Inmarsat C Mobile Earth Stations onboard or install a 'standalone' LRIT terminal.
- 5.4 Taking into consideration the principle that an applicable vessel should transmit LRIT information as from the date that it enters service, vessels which are constructed prior to 31 December 2008, but which are not due to be delivered until after this date should undergo a conformance test prior to the vessel entering service.
- 5.5 The conformance test should be conducted before the radio survey due date. If the test has been unsuccessful, the vessel should still have documentation attesting to a conformance test being carried out.

6.0 Survey and certification

- 6.1 The Recognized Organization (RO), taking into consideration the compliance dates in accordance with the provisions of SOLAS Regulation V/19-1.4.1 and the guidance outlined in Sections 8 & 9 of MSC.1/Circ.1307, should ensure that vessels have a valid Conformance Test Report prior to issuing the full term Safety Equipment Certificate during the applicable surveys.
- a. When a vessel is transferring flag (see section 9.) and registering with Liberia and is required to test in accordance with section 9.3 of this document, the ship-owner shall have made prior arrangements to soonest possible have the LRIT equipment tested with one of the approved testing ASPs. When presented with evidence of a test appointment, the RO may issue to the vessel a full term Safety Equipment Certificate.
 - b. If the LRIT equipment has previously been tested and a Conformance Test Report was issued by one of the approved testing ASPs, the RO shall issue a full term Safety Equipment Certificate.

In either case, a dispensation is not required.

- 6.2 On satisfactory completion of a shipborne terminal conformance test, the ASP conducting the test shall submit the LRIT conformance test results to the Administration in accordance with conditions and format outlined in the Testing ASP agreement.
- 6.3 For cargo ships of gross tonnage of 300 and above but of less than 500, which have not been issued a Cargo Ship Safety Equipment Certificate, compliance with the LRIT requirements should be verified by having on board a valid Conformance Test Report.
- 6.4 On satisfactory completion of a conformance test, the Authorized Testing ASP conducting the test will issue a report to the Administration to support and serve as the basis for the Conformance Test Report.
- 6.5 The Administration will issue the Conformance Test Report. There is no additional action required from the shipowner once the test has been successfully completed since the test report data is automatically forwarded to the Administration by the Authorized Testing ASP.
- 6.6 Endorsement and Renewal of the Safety Equipment Certificate – In accordance with the provisions of MSC.1/Circ.1307 with regards to the LRIT equipment, during annual surveys the attending surveyor should endorse the Safety Equipment Certificate provided that the Conformance Test Report is still valid. At the time of renewal of the Safety Equipment Certificate the Certificate should be reissued if the vessel still has a valid Conformance Test Report. No annual test or other verification of the LRIT equipment is required for the annual or renewal survey of the Safety Equipment Certificate.

7.0 Test Report

- 7.1 The LRIT conformance testing process concludes with the issuance of a formal Conformance Test Report to the shipowner by the Administration. This Conformance Test Report shall be placed on board.
- 7.2 The Conformance test Report must remain with the ship's documents for as long as the shipborne terminal is deemed compliant in accordance to paragraph 8 below. The

Conformance Test report does not expire, until such time as there may be reason to require the conformance test to be repeated and the Conformance test report reissued as per paragraph 8.

8.0 Conformance Test Reports: Validity and amendments:

8.1 In accordance with the provisions of Sections 7.2, 7.3 and 10 of MSC.1/Circ.1307, the shipborne equipment is required to undergo a new conformance test and a new Conformance Test Report is required to be issued where:

- .1 there are changes to the LRIT shipborne equipment;
- .2 the LRIT shipborne equipment becomes unserviceable;
- .3 the Administration has been notified by the Recognized ASP that the shipborne equipment is not operating within the parameters of the Conformance Test Report and/or in accordance with the LRIT performance standards;
- .4 the affected vessel has transferred to the Liberian flag and its Conformance Test Report has been issued by an ASP that is not a Liberian Authorized Testing ASP; or
- .5 the vessel is intended to operate outside the sea area noted on the Conformance Test Report.

8.2 Notwithstanding paragraph 8.1, the Administration recommends that the Conformance Test Report be re-issued when changes occur affecting the ship details, particularly if there is a change in the vessel's name.

8.3 Change of Vessel Name: the Shipowner may send a request for an amended Conformance Test Report to Vessel Certificates at email: vesselcertificates@liscr.com. The request should specify the vessel's IMO number, previous name and confirm the vessel's new name.

8.4 Change of Flag: the procedures outline in Section 9 of this Notice shall be followed.

9.0 Transfer of flag and ships permanently being taking out of service:

9.1 In order for a vessel to commence transmitting the required data and to ensure the timely compliance with the provisions of V/19-1, the LRIT equipment must be integrated into the Liberian NDC. When a ship enters or leaves the Flag, as part of the transfer process it is therefore essential that commercial details such as ships name, flag, LRIT equipment identifiers and serial numbers be completed in a timely manner to accomplish or maintain compliance with the requirement to transmit LRIT information at the time that Flag change occurs. Recognizing this need to ensure a timely integration of a vessel to the Liberian NDC, Companies intending to transfer a LRIT applicable vessel to the Liberian Registry must provide the Administration with the following information during the registration process:

- the ship IMO number,
- current flag,
- the proposed date of transfer
- copy of existing Conformance Test Report, and

- confirmation of scheduled Conformance Test with a Liberian Authorized Testing ASP (if previous Conformance Test was not conducted with a Liberian authorized ASP or if no Conformance Test has been conducted).
- 9.2 If the Testing ASP that issued the existing Conformance Test Report is one listed in paragraph 5.2, the Company should instruct the Testing ASP to forward the LRIT conformance test results, in the required format, to the Administration in order to enable effective integration. The Shipowner will need to confirm that there is no change to the equipment and provide the ASP with the updated details regarding the following:
- Vessel name (if applicable)
 - Port of Registry
 - Maritime Mobile Service Identity (MMSI) number
 - Shipborne Equipment Identifier
- 9.3 In cases where the Testing ASP that issued the previous Conformance Test Report is not authorized by the Liberian Administration or in cases where no prior Conformance test was conducted, the transfer of flag will require a vessel to undergo a new conformance test of the LRIT shipborne equipment. Owners should be advised that the duration of the conformance testing is approximately 48 hours and is conducted remotely and preferably while the vessel is at sea.
- 9.3.1 In order to expedite the process owners may schedule a conformance test, with an ASP authorized by the Liberian Administration, prior to the transfer of flag. The new Inmarsat Mobile Number (IMN), issued by the Liberian Administration after transfer of flag, must be provided to the ASP so that a new Conformance Test Report can be issued by the Administration.
- 9.4 In the event that a vessel is to be transferred from the Liberian flag or will be permanently taken out of service, Companies must promptly notify the Administrations LRIT department at: LRIT@liscr.com in order to enable the timely deletion of the LRIT shipborne equipment from the Liberian LRIT NDC.
- 9.5 As a vessel has to be integrated to the Data Centre in order to transmit the required LRIT information, Companies should note that the integration/decommissioning of a LRIT shipborne equipment is critical to ensuring that affected vessels are not unduly penalized or detained for failing to transmit LRIT information.
- 9.6 In the event that the applicable transferring vessel is not equipped with LRIT capable equipment and/or has not conducted a conformance test then shipborne equipment must be selected, *as per paragraph 4*, and a conformance test must be conducted, *as per paragraph 5*. Considering that more time may be required for installation of new equipment, configuration of existing equipment and/or scheduling of a conformance test, owners should contact the Administration to request a temporary dispensation to allow the time necessary to complete these undertakings. The installation and commissioning of the new LRIT equipment is to be completed before a full term Safety Equipment Certificate may be issued.

10.0 Failure of the LRIT equipment, switching off the LRIT equipment, ceasing the distribution of LRIT Information, and reducing the frequency or temporarily stopping the transmission of LRIT information:

10.1 The Administration will advise the relevant parties if it intends to cease the distribution of LRIT information and/or reduce the frequency or temporarily stop transmitting LRIT Information. The Master shall record such notification in the vessel's Official Log Book.

10.2 **The Master or Company Security Officer (CSO) shall notify the Administration in writing at: LRIT@liscr.com of the following circumstances that may warrant the LRIT equipment being switched off:**

- ship is undergoing repairs, modifications or conversions in dry-dock,
- ship is laid up for a period exceeding 7 days,
- circumstances where the ship is without electrical power for longer than 12 hours.
In such cases, the notification and subsequent agreement shall be recorded in the ship's Official Log Book and the Administration shall be advised when the LRIT equipment is switched on in order that it can be re-integrated into the Liberian LRIT Data Centre.

10.3 **The Master or CSO shall notify the Administration, Recognized Organization and if applicable, the local port State authorities of any failure of the LRIT equipment.** In such cases, the notification shall be recorded in the ship's Official Log Book and all applicable parties shall be advised when the LRIT equipment is fully operational. When notifying the Administration the Master or CSO shall request a dispensation from the Administration to allow the vessel to operate without a properly working LRIT unit.

11.0 Current status of the implementation of the Liberian LRIT National Data Centre

11.1 The Liberian Administration has established a fully functional National Data Centre which is operated on its behalf by Polestar (www.polestarglobal.com) who is also authorized as the Liberian Recognized Application Service Provider (Recognized ASP) to perform the functions in accordance with section 5.3 of the revised LRIT performance standards and functional requirements.

11.2 All applicable Liberian registered vessels will be integrated into the Liberian LRIT Data Centre depending on the date of their radio survey (detailed in paragraph 2) and subject to a satisfactory CT of the shipborne LRIT equipment.

12.0 Configuring Shipborne Equipment

12.1 The following guidance is provided to assist shipowners and masters with determining the suitability of existing equipment for LRIT. This information is not intended to be exhaustive of all possible configurations and may contain errors as it is supplied by manufacturers and other third parties.

12.2 For Inmarsat-C shipborne equipment; the make and model of equipment may be determined using the first six digits of the Inmarsat Serial Number (ISN). If the equipment appears to be LRIT capable; the following steps should be taken:

- Contact the manufacturer to confirm that the shipborne equipment has current software/firmware versions; and

- Ensure that Polling & Data Reporting (PDR) functions are enabled; and
- Ensure that Macro Encoded Message 11 (MEM-11) is enabled.
- For IsatM2M and Iridium shipborne equipment.
All models listed are suitable for LRIT without further configuration.

13.0 Recommended LRIT Equipment Maintenance:

The Administration acknowledges that in some instances it can be difficult for the ship/company to ensure compliance with LRIT. Some of the ‘lessons learned’ in Liberian ships include:

- Reset of equipment will often solve the problem (more than 75%)
- Re-upload of DNID (Communication Protocol)
- Antenna obscured by cranes, superstructures, buildings etc.
- Change of equipment (including ‘cloning’)
- Antenna broken/loose connections/water ingress
- De-activated Inmarsat Mobile Numbers (IMN)

It is recommended that the antenna and connections are inspected with adequate intervals to prevent loss of signal due to loose connections and/or water ingress.

The DNID table can be corrupted and even deleted during certain firm-ware updates or general repair to a unit. On Inmarsat-C shipborne equipment, there should be four Polestar DNIDs enabled – one for each Ocean Region. It is recommended to check for these DNIDs following any type of maintenance to the equipment.

If, after repair or firm-ware update to the equipment, there are any doubts whether the LRIT equipment is transmitting LRIT data, please contact LRIT@liscr.com for verification.

Before de-activating an IMN, ensure it is not the IMN used for the LRIT terminal. Especially during the Radio Station License renewal, it is important the IMN associated with the LRIT terminal is not deactivated.

14.0 Shipborne Equipment Guide

14.1 The following list shows common Inmarsat-C models and approved shipborne equipment for other Communications Service Providers (CSPs). For information on models not shown contact the Recognized ASP or the equipment manufacturer to determine suitability for LRIT:

CSP	ISN	Manufacturer	Model	LRIT Capable	Note
Inmarsat-C	4FE088xxxxxx	Furuno	MINI-C FELCOM 16	YES	1
Inmarsat-C	4FE060xxxxxx	Furuno	FELCOM 15	YES	1
Inmarsat-C	4FE050xxxxxx	Furuno	FELCOM 12	YES	2
Inmarsat-C	4FE030xxxxxx	Furuno	FELCOM 11	YES	2
Inmarsat-C	4IM010xxxxxx	Intermarine	INTERMARINE IME7001	YES	2
Inmarsat-C	4JR140xxxxxx	Japan Radio Corporation	JUE-85	YES	2
Inmarsat-C	4JR110xxxxxx	Japan Radio Corporation	JUE-75C	YES	3
Inmarsat-C	4JR040xxxxxx	Japan Radio Corporation	JUE-75A	NO	-

Inmarsat-C	4RA020xxxxxx	Raytheon	STR 1500C	NO	-
Inmarsat-C	4SP060xxxxxx	Sailor	SAILOR SAT-C H2095C	YES	2
Inmarsat-C	4SP020xxxxxx	Sailor	SAILOR H2095B	NO	4
IsatM2M	DSTxxxxxxx	Satamatics	SAT-201i-LRIT	YES	1
IsatM2M	DCC009xxxxxx	Skywave	DMR-800LRIT	YES	1
Inmarsat-C	4DM020xxxxxx	STN Atlas	Debeg 3220B	NO	4
Inmarsat-C	4TT091xxxxxx	Thrane & Thrane	MINI-C TT-3000SSA	YES	5
Inmarsat-C	4TT093xxxxxx	Thrane & Thrane	SAILOR TT-3000E	YES	1
Inmarsat-C	4TT080xxxxxx	Thrane & Thrane	TT-3020C	YES	2
Inmarsat-C	4TT020xxxxxx	Thrane & Thrane	TT-3020B	NO	4
Inmarsat-C	4TT010xxxxxx	Thrane & Thrane	TT-3020A	NO	4
Inmarsat-C	4TL010xxxxxx	Trimble	GALAXY TNL 7001	YES	2
Inmarsat-C	4TL040xxxxxx	Trimble	GAL-SENTINEL TNL8001	YES	2
Iridium	(n/a)	All Iridium Approved	LRIT Models	YES	1

NOTES:

1. This model is LRIT capable.
2. This model is LRIT capable; but may require software and/or firmware upgrades.
3. This model may be LRIT capable; contact manufacturer with equipment serial number for confirmation.
4. This model is not recommended by manufacturer, although it may pass an LRIT Conformance Test.
5. This model may require firmware upgrade or reconfiguration if used for dual SSAS & LRIT compliance.

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