

INTERNATIONAL STANDARD



**Maritime navigation and radiocommunication equipment and systems –
Shipborne equipment for long-range identification and tracking (LRIT) –
Performance requirements**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE

S

ICS 47.020.70

ISBN 978-2-83220-148-0

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD	4
1 Scope	6
2 Normative references	6
3 Abbreviations	7
4 Performance requirements	7
4.1 General	7
4.1.1 General requirements	7
4.1.2 Additional facilities	7
4.2 Transmission of information	7
4.3 Remote configuration	8
4.4 On-demand reports	8
4.5 Functionality	8
4.6 Coverage	9
4.7 User controls	9
4.8 Remote switching	10
5 Technical requirements	10
5.1 Interfacing	10
5.2 Environmental requirement	10
5.3 Electromagnetic compatibility requirement	10
5.4 Recovery after power outage	10
5.5 Radiated spurious emissions	11
6 Methods of testing and required test results	11
6.1 General	11
6.2 General	11
6.2.1 General requirements	11
6.2.2 Additional facilities	12
6.3 Performance requirements	12
6.3.1 Transmission of information	12
6.3.2 Remote configuration	12
6.3.3 On demand reports	12
6.3.4 Functionality	12
6.3.5 Coverage	13
6.3.6 User controls	13
6.3.7 Remote switching	13
6.4 Technical requirements	13
6.4.1 Interfacing	13
6.4.2 Recovery after power outage	14
6.4.3 Radiated spurious emissions	14
Annex A (informative) Introduction to the LRIT system	15
Annex B (normative) Requirements relating to installation	18
Annex C (informative) LRIT shipborne equipment conformance test	19
Bibliography	22

Figure A.1 – Schematic of information transfer from ship to LRIT data centre 15
Figure A.2 – Schematic of information transfer in the LRIT system 16

Table 1 – Data to be transmitted from the shipborne equipment 9
Table C.1 – Shipborne equipment test requirements 19

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MARITIME NAVIGATION AND RADIOTRANSFER
EQUIPMENT AND SYSTEMS –
SHIPBORNE EQUIPMENT FOR LONG-RANGE
IDENTIFICATION AND TRACKING (LRIT) –
PERFORMANCE REQUIREMENTS****FOREWORD**

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62729 has been prepared by IEC technical committee 80: Maritime navigation and radiotransfer equipment and systems.

The text of this standard is based on the following documents:

FDIS	Report on voting
80/663/FDIS	80/668/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

**MARITIME NAVIGATION AND RADIOTRANSFER
EQUIPMENT AND SYSTEMS –
SHIPBORNE EQUIPMENT FOR LONG-RANGE
IDENTIFICATION AND TRACKING (LRIT) –
PERFORMANCE REQUIREMENTS**

1 Scope

International Standard IEC 62729 specifies the performance requirements and methods of testing for shipborne equipment for use for long-range identification and tracking (LRIT). Long-range identification and tracking of ships is a requirement of regulation V/19-1 of SOLAS 1974 as amended. An introduction to the system is given in Annex A. The standard results from observations made at the IMO meeting of MSC 88 in November 2010 that some LRIT equipment in practice was not operating in accordance with the provisions of SOLAS and the IMO performance standards.

The standard takes account of the general requirements given in IMO resolution A.694(17) and is associated with IEC 60945. When a requirement in this International Standard is different from IEC 60945, the requirement in this standard takes precedence.

This standard incorporates the parts of the performance standards included in IMO resolution MSC.263(84), Revised performance standards and functional requirements for the long-range identification and tracking of ships.

Equipment tested to this standard will demonstrate compliance with the SOLAS regulation as indicated below and the test results will assist Administrations in granting type approval:

(SOLAS V/19-1.6) Systems and equipment used to meet the requirements of this regulation shall conform to performance standards and functional requirements not inferior to those adopted by the IMO. Any shipboard equipment shall be type approved by the Administration.

Shipboard installations are not covered by this standard but matters relating to the installation of the shipboard equipment are reproduced in Annex B. The IMO conformance test of shipborne installations is not covered by this standard but details are given, for information, in Annex C.

NOTE All text of this standard, whose wording is identical to that of IMO resolution MSC.263(84) and the SOLAS Convention, is printed in italics, and the resolution and associated performance standard paragraph numbers or regulation are indicated in brackets.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60945:2002, *Maritime navigation and radiotransfer equipment and systems – General requirements – Methods of testing and required test results*

IMO, *International Convention for the safety of life at sea (SOLAS), 1974 as amended*

IMO Resolution A.694(17):1991, *General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids*

IMO Resolution MSC.263(84):2008, *Revised performance standards and functional requirements for the long-range identification and tracking of ships*

ITU Radio Regulations, Appendix 3, *Tables of maximum permitted power levels for spurious or spurious domain emissions*