



CONSOLIDATED VERSION



**Global maritime distress and safety system (GMDSS) –
Part 4: Inmarsat-C ship earth station and Inmarsat enhanced group call (EGC)
equipment – Operational and performance requirements, methods of testing
and required test results**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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REDLINE VERSION



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CONTENTS

FOREWORD	4
INTRODUCTION to Amendment 2	6
1 Scope	7
2 Normative references	7
3 Performance requirements	9
3.1 Overview	9
3.2 Non-operational requirements	9
3.2.1 General	9
3.2.2 Warning of radiation hazard	9
3.2.3 Power supply changeover	9
3.3 Operational requirements for ship earth stations	9
3.3.1 Capabilities	9
3.3.2 Ship station identity	10
3.3.3 Distress alerting	10
3.3.4 Position updating	10
3.4 Operational requirements for EGC receivers	11
3.4.1 Capabilities	11
3.4.2 General	11
3.4.3 Position and area code updating	11
3.4.4 Indication of receipt of priority message	12
3.4.5 Indication of tuning and synchronisation	12
3.4.6 Printing selection	12
3.4.7 Printing device	12
3.5 Performance related requirements from IEC 60945	13
3.6 Other requirements	13
3.7 Long-range identification and tracking	13
3.7.1 General	13
3.7.2 Capabilities	14
3.7.3 Functionality	15
3.7.4 Communication system	15
4 Technical characteristics	16
4.1 Overview	16
4.2 Environmental and electromagnetic compatibility requirement	16
4.3 Radiated spurious emissions	17
4.4 Interfaces	17
5 Methods of testing and required test results	17
5.1 Overview	17
5.1.1 General	17
5.1.2 Performance requirements	18
5.1.3 Technical characteristics	18
5.2 Tests of non-operational requirements	18
5.3 Tests of operational requirements for ship earth stations	18
5.3.1 Capabilities	18
5.3.2 Ship station identity	18
5.3.3 Distress alerting	18
5.3.4 Position updating	19

5.4	Tests of operational requirements for EGC receivers.....	19
5.4.1	Capabilities	19
5.4.2	General	19
5.4.3	Position and area code updating.....	19
5.4.4	Indication of receipt of priority message	20
5.4.5	Indication of tuning and synchronisation	20
5.4.6	Printing selection.....	20
5.4.7	Printing device.....	20
5.5	Tests of performance related requirements from IEC 60945	20
5.6	Tests of other requirements.....	20
5.7	Long-range identification and tracking	20
5.7.1	General	20
5.7.2	Capabilities	21
5.7.3	Functionality.....	21
5.7.4	Communication system.....	21
5.8	Tests of technical characteristics.....	22
5.8.1	Inmarsat tests.....	22
5.8.2	Tests for environmental and electromagnetic compatibility	22
5.8.3	Interfaces	22
Annex A (normative) Requirements relating to installation		24
Annex B (normative) Radiated unwanted emissions		25
Annex C (informative) Inmarsat RTP schedule of tests.....		28
Bibliography.....		32
Table 1 – Data to be transmitted from the shipborne equipment.....		15
Table 2 – Environmental conditions		16
Table B.1 – Limits of unwanted emissions up to 1 000 MHz		25
Table B.2 – Limits of unwanted emissions above 1 000 MHz		26
Table B.3 – Limits of unwanted emission within the operating band with carrier-on		27
Table C.1 – Phase I Inmarsat-C schedule of tests.....		28
Table C.2 – Phase I EGC receiver schedule of tests.....		30
Table C.3 – Phase II schedule of tests.....		31

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FOREWORD

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- 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.
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DISCLAIMER

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In this Redline version, a vertical line in the margin shows where the technical content is modified by amendments 1 and 2. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 61097-4 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

This edition constitutes a technical revision. The main changes with respect to the previous edition are:

- the IMO references and requirements have been updated to the new performance standards for enhanced group call equipment adopted in 2010 as resolution MSC.306(87). The new performance standards incorporate new requirements for an indication of ship's position which has not been updated (3.4.3) and an alarm for paper low condition (3.4.7). These two requirements are, however, derived from Inmarsat documentation so there is no technical change to equipment;
- a new subclause has been added (3.7) concerning long-range identification and tracking (LRIT) to support IMO performance standards given in resolution MSC.263(84) adopted in 2008;
- references to Inmarsat documentation have been simplified by moving the content of Tables 1, 2, 4 and 5 into a new Annex C;
- the text has been editorially updated to conform to the ISO/IEC Directives.

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

A list of all parts of IEC 61097 series, published under the general title *Global maritime distress and safety system (GMDSS)*, can be found on the IEC website.

The committee has decided that the contents of the base publication and its amendments 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.

INTRODUCTION to Amendment 2

NOTE This amendment adds a requirement for an interface for alert management and removes the requirement to produce a printed copy of received safety information providing there is an interface to other navigation display equipment. This results from amendments to the performance standards for enhanced group call equipment agreed by the International Maritime Organization in resolution MSC.431(98) in 2017. It can be noted that the technical provisions for the interface for the transfer of received data to other navigation display equipment were included in IEC 61097-4:2012/AMD1:2016.

GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS) –

Part 4: Inmarsat-C ship earth station and Inmarsat enhanced group call (EGC) equipment – Operational and performance requirements, methods of testing and required test results

1 Scope

This part of IEC 61097 specifies the performance requirements and methods of testing for Inmarsat-C ship earth stations (SES) capable of transmitting and receiving direct-printing communications, and for enhanced group call (EGC) receivers, for use in the GMDSS and for use for long-range identification and tracking (LRIT). The available variants are:

- Class 0: An EGC receiver, either stand-alone or an element of a GMDSS installation in accordance with the Inmarsat design and installation guidelines (DIGs) for GMDSS installations.
- Class 1: A basic SES providing shore-to-ship and ship-to-shore message transfer only.
- Class 2: As class 1 but with EGC as an alternative to shore-to-ship transfer using a shared receiver.
- Class 3: As class 1 but with EGC using an independent receiver.

NOTE 1 The 34th session of the IMO Sub-Committee on Radiocommunications decided that class 2 equipment would be adequate to provide sufficient availability for the reception of maritime safety information for the GMDSS.

The standard complies with IMO performance requirements stated in the normative references, Inmarsat technical characteristics and test procedures, and IEC 60945 general requirements except where modifications are explicitly stated in this standard. Technical characteristics essential to GMDSS and LRIT operation as defined by the IMO are identified.

All text of this standard, whose wording is identical to that in IMO SOLAS Convention 1974 as amended in 1988 and Resolutions A.807(19), MSC.263(84) and MSC.306(87) is printed in *italics* and reference made to the Resolution/Recommendation and subclause number.

This standard covers equipment construction and testing. Matters relating to installation may also be found in the Inmarsat Maritime design and installation guidelines (see Bibliography). Those to be found in IMO Resolutions A.807(19), MSC.263(84) and MSC.306(87) are reproduced in Annex A.

Responsibility for type approval of Inmarsat-C and Inmarsat-EGC is vested in Inmarsat by IMO Resolutions A.807(19) and MSC.306(87) (see 3.2.1). Therefore, this standard does not reproduce Inmarsat test procedures in full, but refers to where they are given in Inmarsat documentation cited in the normative references to this standard (Annex C).

NOTE 2 For the purposes of this standard the terms Inmarsat-C, Inmarsat Standard-C, Standard-C refer to the same equipment.

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 radiocommunication equipment and systems – General requirements – Methods of testing and required test results*

IEC 61108 (all parts), *Maritime navigation and radiocommunication equipment and systems – Global navigation satellite systems (GNSS)*

IEC 61162-1, *Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 1: Single talker and multiple listeners*

IEC 62923-1, *Maritime navigation and radiocommunication equipment and systems – Bridge alert management – Part 1: Operational and performance requirements, methods of testing and required test results*

IEC 62923-2, *Maritime navigation and radiocommunication equipment and systems – Bridge alert management – Part 2: Alert and cluster identifiers and other additional features*

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 A.807(19):1995, *Performance Standards for INMARSAT-C ship earth stations capable of transmitting and receiving direct-printing communications as amended by Resolution MSC.68(68) Annex 4*

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

IMO Resolution MSC.302(87) (2010), *Performance standards for bridge alert management*

IMO Resolution MSC.306(87):2010, *Revised performance standards for enhanced group call (EGC) equipment*

Inmarsat, *Inmarsat-C System definition manual (SDM) Volume 2 – Part 2, Application Note 2, Position reporting service*

Inmarsat, *Inmarsat-C System definition manual (SDM) Volume 2 – Part 2, Application Note 3, Application developers guide to data reporting and polling*

Inmarsat, *Inmarsat-C System definition manual (SDM) Volume 3 – Part 2, Chapter 2, Mobile earth station technical requirements*

Inmarsat, *Inmarsat-C System definition manual (SDM) Volume 3 – Part 2, Chapter 5, Ship earth station technical requirements*

Inmarsat, *Inmarsat-C System definition manual (SDM) Volume 3 – Part 2, Chapter 8, Technical requirements for an EGC receiver*

Inmarsat, *Recommended test procedures (RTP) for the type approval of Inmarsat-C mobile earth stations*

FINAL VERSION

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CONTENTS

FOREWORD	4
INTRODUCTION to Amendment 2	6
1 Scope	7
2 Normative references	7
3 Performance requirements	9
3.1 Overview	9
3.2 Non-operational requirements	9
3.2.1 General	9
3.2.2 Warning of radiation hazard	9
3.2.3 Power supply changeover	9
3.3 Operational requirements for ship earth stations	9
3.3.1 Capabilities	9
3.3.2 Ship station identity	10
3.3.3 Distress alerting	10
3.3.4 Position updating	10
3.4 Operational requirements for EGC receivers	11
3.4.1 Capabilities	11
3.4.2 General	11
3.4.3 Position and area code updating	11
3.4.4 Indication of receipt of priority message	12
3.4.5 Indication of tuning and synchronisation	12
3.4.6 Printing selection	12
3.4.7 Printing device	12
3.5 Performance related requirements from IEC 60945	13
3.6 Other requirements	13
3.7 Long-range identification and tracking	13
3.7.1 General	13
3.7.2 Capabilities	14
3.7.3 Functionality	15
3.7.4 Communication system	15
4 Technical characteristics	15
4.1 Overview	15
4.2 Environmental and electromagnetic compatibility requirement	16
4.3 Radiated spurious emissions	16
4.4 Interfaces	17
5 Methods of testing and required test results	17
5.1 Overview	17
5.1.1 General	17
5.1.2 Performance requirements	18
5.1.3 Technical characteristics	18
5.2 Tests of non-operational requirements	18
5.3 Tests of operational requirements for ship earth stations	18
5.3.1 Capabilities	18
5.3.2 Ship station identity	18
5.3.3 Distress alerting	18
5.3.4 Position updating	19

5.4	Tests of operational requirements for EGC receivers.....	19
5.4.1	Capabilities	19
5.4.2	General	19
5.4.3	Position and area code updating.....	19
5.4.4	Indication of receipt of priority message	20
5.4.5	Indication of tuning and synchronisation	20
5.4.6	Printing selection.....	20
5.4.7	Printing device.....	20
5.5	Tests of performance related requirements from IEC 60945	20
5.6	Tests of other requirements.....	20
5.7	Long-range identification and tracking	20
5.7.1	General	20
5.7.2	Capabilities	21
5.7.3	Functionality.....	21
5.7.4	Communication system.....	21
5.8	Tests of technical characteristics.....	22
5.8.1	Inmarsat tests.....	22
5.8.2	Tests for environmental and electromagnetic compatibility	22
5.8.3	Interfaces	22
Annex A (normative) Requirements relating to installation		24
Annex B (normative) Radiated unwanted emissions		25
Annex C (informative) Inmarsat RTP schedule of tests.....		28
Bibliography.....		32
Table 1 – Data to be transmitted from the shipborne equipment.....		15
Table 2 – Environmental conditions		16
Table B.1 – Limits of unwanted emissions up to 1 000 MHz		25
Table B.2 – Limits of unwanted emissions above 1 000 MHz		26
Table B.3 – Limits of unwanted emission within the operating band with carrier-on		27
Table C.1 – Phase I Inmarsat-C schedule of tests.....		28
Table C.2 – Phase I EGC receiver schedule of tests.....		30
Table C.3 – Phase II schedule of tests.....		31

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Inmarsat, *Inmarsat-C System definition manual (SDM) Volume 3 – Part 2, Chapter 8, Technical requirements for an EGC receiver*

Inmarsat, *Recommended test procedures (RTP) for the type approval of Inmarsat-C mobile earth stations*