

INTERNATIONAL STANDARD



**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**

Document Preview

[IEC 61097-4:2024](#)

<https://standards.iteh.ai/catalog/standards/iec/f13e4385-652f-49f2-a0f1-ee6b64fc305b/iec-61097-4-2024>



THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2024 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch

Discover our powerful search engine and read freely all the publications previews, graphical symbols and the glossary. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

International Standards
Document Preview
standards.iteh.ai

[IEC 61097-4:2024](https://standards.iteh.ai/catalog/standards/iec/f13e4385-652f-49f2-a0f1-ee6b64fc305b/iec-61097-4-2024)

<https://standards.iteh.ai/catalog/standards/iec/f13e4385-652f-49f2-a0f1-ee6b64fc305b/iec-61097-4-2024>



IEC 61097-4

Edition 4.0 2024-02
COMMENTED VERSION

INTERNATIONAL STANDARD



**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**

Document Preview

[IEC 61097-4:2024](https://standards.iteh.ai/catalog/standards/iec/f13e4385-652f-49f2-a0f1-ee64fc305b/iec-61097-4-2024)

<https://standards.iteh.ai/catalog/standards/iec/f13e4385-652f-49f2-a0f1-ee64fc305b/iec-61097-4-2024>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 47.020.70

ISBN 978-2-8322-8342-4

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

CONTENTS

FOREWORD	4
INTRODUCTION to Amendment 2	4
1 Scope	7
2 Normative references	8
3 Terms and definitions	9
4 Performance requirements	9
4.1 Overview	9
4.2 Non-operational requirements	9
4.2.1 General	9
4.2.2 Warning of radiation hazard	10
4.2.3 Power supply changeover	10
4.2.4 Installation	10
4.3 Operational requirements for ship earth stations	10
4.3.1 Capabilities	10
4.3.2 Ship station identity	10
4.3.3 Distress alerting	10
4.3.4 Position updating	11
4.4 Operational requirements for EGC receivers	12
4.4.1 Capabilities	12
4.4.2 General	12
4.4.3 Position and area code updating	13
4.4.4 Indication of receipt of priority message	13
4.4.5 Indication of tuning and synchronisation	13
4.4.6 Printing selection	13
4.4.7 Printing device	14
4.5 Performance related requirements from IEC 60945	14
4.6 Other requirements	14
4.7 Long-range identification and tracking	15
4.7.1 General	15
4.7.2 Capabilities	15
4.7.3 Functionality	16
4.7.4 Communication system	17
5 Technical characteristics	17
5.1 Overview	17
5.2 Environmental and electromagnetic compatibility requirement	17
5.3 Radiated spurious emissions	18
5.4 Interfaces	18
5.5 Interfering signals	19
6 Methods of testing and required test results	19
6.1 Overview	19
6.1.1 General	19
6.1.2 Performance requirements	19
6.1.3 Technical characteristics	19
6.2 Tests of non-operational requirements	19
6.3 Tests of operational requirements for ship earth stations	19
6.3.1 Capabilities	19

6.3.2	Ship station identity	20
6.3.3	Distress alerting	20
6.3.4	Position updating.....	20
6.4	Tests of operational requirements for EGC receivers	21
6.4.1	Capabilities	21
6.4.2	General.....	21
6.4.3	Position and area code updating	21
6.4.4	Indication of receipt of priority message	21
6.4.5	Indication of tuning and synchronisation	21
6.4.6	Printing selection.....	21
6.4.7	Printing device	22
6.5	Tests of performance related requirements from IEC 60945	22
6.6	Tests of other requirements	22
6.7	Long-range identification and tracking	22
6.7.1	General.....	22
6.7.2	Capabilities	22
6.7.3	Functionality.....	23
6.7.4	Communication system.....	23
6.8	Tests of technical characteristics.....	24
6.8.1	Inmarsat tests	24
6.8.2	Tests for environmental and electromagnetic compatibility	24
6.8.3	Interfaces.....	24
6.8.4	Interfering signals.....	24
Annex A (normative)	Requirements relating to installation	26
A.1	General.....	26
A.2	Source of electrical energy.....	26
A.3	Siting of antennas.....	26
A.4	Long-range identification and tracking	26
A.5	Requirements	26
Annex B (normative)	Radiated unwanted emissions.....	27
B.1	Unwanted emissions 30 MHz to 1 000 MHz	27
B.2	Unwanted emissions above 1 000 MHz	27
B.3	Unwanted emissions within the bands with carrier-on.....	28
B.4	Unwanted emissions within the bands with carrier-off	29
Annex C (informative)	Inmarsat RTP schedule of tests	30
Bibliography	34
List of comments	35
Table 1	– Data to be transmitted from the shipborne equipment.....	16
Table 2	– Environmental conditions	17
Table B.1	– Limits of unwanted emissions up to 1 000 MHz.....	27
Table B.2	– Limits of unwanted emissions above 1 000 MHz	28
Table B.3	– Limits of unwanted emission within the operating band with carrier-on.....	29
Table C.1	– Phase I Inmarsat-C schedule of tests	30
Table C.2	– Phase I EGC receiver schedule of tests.....	32
Table C.3	– Phase II schedule of tests.....	33

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**

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) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

This commented version (CMV) of the official standard IEC 61097-4:2024 edition 4.0 allows the user to identify the changes made to the previous IEC 61097-4:2012+AMD1:2016+AMD2:2019 CSV edition 3.2. Furthermore, comments from IEC TC 80 experts are provided to explain the reasons of the most relevant changes, or to clarify any part of the content.


A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text. Experts' comments are identified by a blue-background number. Mouse over a number to display a pop-up note with the comment.

This publication contains the CMV and the official standard. The full list of comments is available at the end of the CMV.

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

This fourth edition cancels and replaces the third edition published in 2012, Amendment 1:2016 and Amendment 2:2019. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) the addition of a technical requirement in 5.5 for operation in the presence of an interfering signal, with associated test, resulting from new IMO performance standards given in resolution MSC.513(105). 

The text of this International Standard is based on the following documents:

Draft	Report on voting
80/1102/FDIS	80/1113/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the 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 this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

IMPORTANT – The "colour inside" logo on the cover page of this document 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.~~

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[IEC 61097-4:2024](https://standards.iteh.ai/catalog/standards/iec/f13e4385-652f-49f2-a0f1-ee6b64fc305b/iec-61097-4-2024)

<https://standards.iteh.ai/catalog/standards/iec/f13e4385-652f-49f2-a0f1-ee6b64fc305b/iec-61097-4-2024>

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.

This document 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 document. Technical characteristics essential to GMDSS and LRIT operation as defined by the IMO are identified.

All text of this document, whose wording is identical to that in IMO SOLAS Convention 1974 as amended in 1988 and Resolutions ~~A.807(19)~~ MSC.513(105), MSC.263(84) and MSC.306(87) is printed in *italics* and reference made to the Resolution/Recommendation and subclause number.

This document covers equipment construction and testing. Matters relating to installation ~~may also~~ can be found in the Inmarsat Maritime design and installation guidelines (see Bibliography). Those to be found in IMO Resolutions ~~A.807(19)~~ MSC.513(105), 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)~~ MSC.513(105) and MSC.306(87) (see 4.2.1). Therefore, this document 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 document (Annex C).

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

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. 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 as amended by resolution MSC.431(98):2017*

IMO Resolution MSC.513(105), *Performance standards for INMARSAT-C ship earth stations capable of transmitting and receiving direct-printing communications*

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*~~

Inmarsat, *Inmarsat C System definition manual (SDM) Change Notice CN150, ATCt signals and other adjacent interferers*

3 Terms and definitions **2**

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

4 Performance requirements

4.1 Overview

Subclauses 4.2 through 4.4 of this document describe performance requirements directly attributable to IMO Resolutions ~~A.807(19)~~ and MSC.306(87) as amended by MSC.431(98) and MSC.513(105) as listed in the normative references. Subclause 4.5 is provided to highlight those requirements of IMO Resolution A.694(17) which are not included in the normal Inmarsat requirements for Inmarsat-C SES type approval. Subclause 4.6 describes other requirements which are required to make the equipment suitable for GMDSS applications. Subclause 4.7 describes performance requirements attributable to IMO Resolution MSC.263(84) for long-range identification and tracking. [IEC 61097-4:2024](https://standards.iteh.ai/catalog/standards/iec/f13e4385-652f-49f2-a0f1-ee6b64fc305b/iec-61097-4-2024)

<https://standards.iteh.ai/catalog/standards/iec/f13e4385-652f-49f2-a0f1-ee6b64fc305b/iec-61097-4-2024>

4.2 Non-operational requirements

4.2.1 General

~~(A.807(19) A1.1/MS.C.306(87) A1.1) The Inmarsat Standard-C ship earth station installation capable of transmitting and receiving direct-printing communications, and (MSC.306(87) A1.1) The enhanced group call equipment to be used in the GMDSS shall comply with the general requirements set out in Assembly resolution A.694(17) as detailed in IEC 60945 and this document. **3**~~

(MSC.513(105) A1.1) The Inmarsat-C ship earth station installation provided to meet a requirement for a ship earth station in SOLAS regulations IV/8.1.4, 9.1.3.3, 9.4.2, 10.1.1 or 10.1.4.3 shall comply with the general requirements set out in resolutions A.694(17). It should be capable of transmitting and receiving automated telegraphy communications in compliance with the relevant ITU-R recommendation on direct-printing telegraphy. In addition, the Inmarsat-C ship earth station shall conform to the following minimum requirements.

(MSC.513(105) A1.2) The performance of any enhanced group call facility provided by the ship earth station shall be in accordance with the performance standards for enhanced group call equipment set out in resolution MSC.306(87) as amended by resolution MSC.431(98) and with the following minimum performance requirements.

~~(A.807(19) A2/(MSC.513(105) A2.1)/MSC.306(87) 2) The ship earth station and the EGC equipment shall be type-approved by Inmarsat and shall comply with the environmental conditions and electromagnetic compatibility requirements specified in IEC 60945.~~

4.2.2 Warning of radiation hazard

~~(A.807(19)(MSC.513(105)~~ A4) In order to permit a warning of potential radiation hazards to be displayed in appropriate locations, a label shall be attached to the radome indicating the distances external to the radome at which radiation levels of 100 W/m², 25 W/m² and 10 W/m² exist. However, the distances which are within the radome need not be indicated.

NOTE Owing to the low transmitted power of Inmarsat-C transmitters (less than 16 dBW) and the omnidirectional antenna used, this label is not normally required.

4.2.3 Power supply changeover

(See 6.2)

~~(A.807(19)(MSC.513(105)~~ A5.2/MSC.306(87) A4.2) Changing from one source of supply to another or any interruption of up to 60 s duration of the supply of electrical energy shall not require the equipment to be manually re-initialized and shall not result in loss of received messages stored in the memory.

4.2.4 Installation

Requirements for installation of the equipment are given in Annex A. **4**

4.3 Operational requirements for ship earth stations

4.3.1 Capabilities

(See 6.3.1)

The equipment shall comply with regulations IV/8 through IV/10 of SOLAS 1974, as amended, which prescribe the capabilities of Inmarsat ship earth stations to meet the GMDSS requirements for ships in the various sea areas. The four capabilities are:

- (SOLAS IV/8.1.5-1/4, IV/9.1.3.3 and IV/10.1.4.3) means of initiating the transmission of ship-to-shore distress alerts.
- (SOLAS IV/10.1.1-4) transmitting and receiving distress urgency and safety communications ~~using direct-printing telegraphy.~~
- (SOLAS IV/10.1.4-2) initiating and receiving distress priority calls.
- (SOLAS ~~IV/9.3.2/IV/10.1.1-4~~ IV/9.4.2, IV/10.4.1) transmitting and receiving general radiocommunications, ~~using either radiotelephony or direct-printing telegraphy.~~

NOTE In the case of this equipment only direct-printing telegraphy applies. **5**

4.3.2 Ship station identity

(See 6.3.2)

~~(A.807(19)(MSC.513(105)~~ A3.1) No control external to the equipment shall be available for alteration of the ship station identity.

4.3.3 Distress alerting

(See 6.3.3)

~~(A.807(19)(MSC.513(105)~~ A3.2) It shall be possible to initiate and make distress calls from the position from which the ship is normally navigated and from at least one other position designated for distress alerting.

~~(A.807(19)~~(MSC.513(105) A3.3) A distress alert shall be activated only by means of a dedicated distress button. This button shall not be any key of an ITU-T digital input panel or an ISO keyboard ~~provided on the equipment~~ associated with the equipment and shall be physically separated from functional buttons/keys used for normal operation. This button shall be a single button for no other purpose than to initiate a distress alert. **6**

~~(A.807(19)~~(MSC.513(105) A3.4) The dedicated distress button shall:

- .1 be clearly identified, red in colour and marked "DISTRESS". Where a non-transparent protective lid or cover is used, it shall also be marked "DISTRESS"; and
- .2 be protected against inadvertent operation. The required protection of the distress button shall consist of a spring-loaded lid or cover permanently attached to the equipment by, for example, hinges. It shall not be necessary for the user to remove additional seals or to break the lid or cover in order to operate the distress button. The operation of the distress button shall generate a visible and audible indication. The distress button shall be kept pressed for at least three seconds. A flashing light and an intermittent acoustic signal shall start immediately. After the three seconds, the transmission of the distress alert is initiated and the indication shall become steady and the acoustic signal shall stop.

~~(A.807(19) A3.5)~~(MSC.513(105) A3.5) The distress alert initiation shall require at least two independent actions. Lifting of the protective lid or cover is considered as the first action. Pressing the distress button as specified above is considered as the second independent action.

~~(A.807(19)~~(MSC.513(105) A3.6) The equipment shall indicate the status of the distress alert transmission.

~~(A.807(19)~~(MSC.513(105) A3.7) It shall be possible to interrupt and initiate distress messages at any time. It shall be possible to interrupt repetitive transmissions of distress messages. Such operation shall not interrupt the transmission of a distress alert or distress message in progress but shall prevent repetitive transmissions of a distress message.

It shall be possible to select the content of, but not initiate a distress alert using the equipment keyboard or other means, before depressing one of the dedicated buttons to initiate the distress alert. It shall also be possible to activate an undesignated (see Note) distress alert by depressing one of the buttons, at any time.

NOTE Undesignated – unspecified distress alert, i.e. the default setting. All other selectable alerts are "designated".

4.3.4 Position updating

(See 6.3.4)

~~(A.807(19) A3.8): Facilities shall be provided to automatically update the ship's position and the time at which the position was determined from a suitable electronic position fixing aid which may be an integral part of the equipment. For equipment which does not have an integral position fixing aid, such facilities shall include a suitable interface conforming to IEC 61162.~~

(MSC.513(105) A3.8) To enable updating of the position:

- .1 the status of the position update shall be visible to the operator (e.g. offline, manual or automatic);
- .2 if position data is being updated automatically, a caution shall be raised if no update has been performed for a period of 10 minutes. The caution shall be removed by receiving new position data;
- .3 if an integral electronic position-fixing aid is not provided, the equipment shall have an interface conforming to the appropriate international standard;
- .4 the equipment shall have facilities for manually entering the ship's position and the time of the position fix;

- .5 if the ship's manually-set position is older than four hours, a caution shall be raised. The caution shall be removed by inputting or receiving new position data; and
- .6 if the ship's position is older than 24 hours, the position is clearly identified with date and time of the fix in UTC for distress alerting purposes. **7**

The integral electronic position-fixing aid shall comply with the applicable requirements of the IEC 61108 series.

As a minimum, the interface shall support the sentences GNS, RMC and ZDA described in IEC 61162-1.

~~(A.807(19) A3.9): Provision shall also be made for manual entry of position information and of the time at which the position was determined.~~

~~(A.807(19) A3.10): An alarm shall be activated when no position data is received from the electronic position-fixing aid or, in the case of manual input, the position information is over 4 hours old. Any position information not updated for more than 24 hours shall be clearly identified. See also 3.4.3.~~

NOTE Subclause 3.3.7, which is referenced in the Inmarsat-C SDM, is 4.3.3 in this edition of this document.

4.4 Operational requirements for EGC receivers

4.4.1 Capabilities

(See 6.4.1)

The equipment shall comply with regulations IV/7 and IV/10 of SOLAS 1974, as amended, which prescribe the capabilities of EGC receivers to meet the GMDSS requirements for ships in the various sea areas. The two capabilities are:

- (SOLAS IV/7.1.54) a radio facility for reception of maritime safety information by the Inmarsat enhanced group calling system.
- (SOLAS IV/10.1.1.3) an Inmarsat ship earth station capable of maintaining watch for shore-to-ship distress alerts, including those directed to specifically defined geographical areas.

4.4.2 General

(See 6.4.2)

~~(MSC.306(87) A1.3 as amended by resolution MSC.431(98)) Alternatively to the requirement in paragraph MSC.306(87) A1.2, the equipment need not provide means to produce a printed copy of received information if it is installed in combination with an interface connecting it to navigation equipment that is compliant with resolution MSC 252(83), as amended, on Revised Performance standards for integrated navigation systems (INS). Provisions for interconnection to a shipborne integrated radiocommunication system (IRCS) when used in the GMDSS (resolution A.811(19)) shall also be included.~~

If no means are provided by the equipment to produce a printed copy of received information then the manufacturer's documentation shall clearly describe that the equipment can only be used when connected to equipment enabled for the display of enhanced group calls ~~in compliance with the applicable~~ as described in IEC 61924-2 ~~requirements~~.

~~NOTE The testing standard for compliance with INS (Resolution MSC 252(83)) is IEC 61924-2. The testing standard for compliance with IRCS (Resolution A.811(19)) is IEC 62940.~~