

RESOLUTION A.569(14) adopted on 20 November 1985  
GENERAL REQUIREMENTS FOR SHIPBORNE RADIO EQUIPMENT FORMING PART  
OF THE FUTURE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM

INTERNATIONAL MARITIME  
ORGANIZATION



ASSEMBLY - 14th session  
Agenda item 10(b)

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THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

RECOGNIZING the need to prepare performance standards for shipborne radio equipment to ensure operational reliability and suitability of equipment used for safety purposes,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its fiftieth session,

1. ADOPTS the annexed Recommendation on General Requirements for Shipborne Radio Equipment Forming Part of the Future Global Maritime Distress and Safety System in accordance with a future revised chapter IV of the 1974 SOLAS Convention expected to enter into force in about 1990;
2. RECOMMENDS Member Governments to ensure that shipborne radio equipment which will form part of the future global maritime distress and safety system conforms to performance standards not inferior to those specified in the Annex to the present resolution.

## ANNEX

### RECOMMENDATION ON GENERAL REQUIREMENTS FOR PERFORMANCE STANDARDS FOR SHIPBORNE RADIO EQUIPMENT FORMING PART OF THE FUTURE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM

#### 1 Introduction

1.1 Equipment which will form part of the future global maritime distress and safety system should comply with the following general requirements and with all applicable performance standards adopted by the Assembly.

1.2 Where a unit of equipment provides a facility which is additional to the minimum requirements of this Recommendation, the operation and, as far as is reasonably practicable, the malfunction of such additional facility should not degrade the requirements specified in paragraph 1.1.

#### 2 Installation

Equipment should be installed in such a manner that it is capable of meeting the requirements of paragraph 1.

#### 3 Operation

3.1 The number of operational controls, their design and manner of function, location, arrangement and size should provide for simple, quick and effective operation. The controls should be arranged in a manner which minimizes the chance of inadvertent operation.

3.2 All operational controls should permit normal adjustments to be easily performed and should be easy to identify from the position at which the equipment is normally operated. Controls not required for normal operation should not be readily accessible.

3.3 Adequate illumination should be provided in the equipment or in the ship to enable identification of controls and facilitate reading of indicators at all times. Where appropriate, means should be provided for dimming the output of any equipment light source which is capable of interfering with navigation.

3.4 The design of the equipment should be such that misuse of the controls should not cause damage to the equipment or injury to personnel.

3.5 If a unit of equipment is connected to one or more other unit of equipment the performance of each should be maintained.

3.6 Where a digital input panel with the digits "0" to "9" is provided, the digits should be arranged to conform with relevant CCITT recommendations.<sup>1/</sup>

#### 4 Power supply

4.1 Equipment should continue to operate in accordance with the requirements of this Recommendation in the presence of variations of power supply normally to be expected in a ship.

4.2 Means should be incorporated for the protection of equipment from the effects of excessive current and voltage, transients and accidental reversal of the power supply polarity.

4.3 If provision is made for operating equipment from more than one source of electrical energy, arrangements for rapidly changing from one source to the other should be provided but not necessarily incorporated in the equipment.

#### 5 Durability and resistance to environmental conditions

Equipment should be capable of continuous operation under the conditions of various sea states, ship's motion, vibration, humidity and temperature likely to be experienced in ships.<sup>2/</sup>

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<sup>1/</sup> CCITT Recommendation E161/Q.11.

<sup>2/</sup> IEC Standard Publication 92-101.



## 6 Interference

6.1 All reasonable and practicable steps should be taken to ensure electromagnetic compatibility between the equipment concerned and other radiocommunication and navigational equipment carried on board in compliance with the relevant requirements of chapter IV and chapter V of the 1974 SOLAS Convention.<sup>1/</sup>

6.2 Mechanical noise from all units should be limited so as not to prejudice the hearing of sounds on which the safety of the ship might depend.

6.3 Each unit of equipment normally to be installed in the vicinity of a standard or a steering magnetic compass should be clearly marked with the minimum safe distance at which it may be mounted from such compasses.

## 7 Safety precautions

7.1 As far as is practicable, accidental access to dangerous voltages should be prevented. All parts and wiring in which the direct or alternating voltages or both (other than radio frequency voltages) combine to give a peak voltage greater than 55 V should be protected against accidental access and should be isolated automatically from all sources of electrical energy when the protective covers are removed. Alternatively, the equipment should be so constructed that access to such voltages may only be gained after having used a tool for this purpose, such as a spanner or screwdriver, and warning labels should be prominently displayed both within the equipment and on protective covers.

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<sup>1/</sup> IEC Publication 533.

7.2 Means should be provided for earthing exposed metallic parts of the equipment but this should not cause any terminal of the source of electrical energy to be earthed.

7.3 All steps should be taken to ensure that electromagnetic radio frequency energy radiated from the equipment shall not be a hazard to personnel.

7.4 Equipment containing elements such as vacuum tubes which are likely to cause X-radiation should comply with the following requirements:

- .1 External X-radiation from the equipment in its normal working condition should not exceed the limits laid down by the Administration concerned.
- .2 When X-radiation can be generated inside the equipment above the levels laid down by the Administration, a prominent warning should be fixed inside the equipment and the precautions to be taken when working on the equipment should be included in the equipment manual.
- .3 If malfunction of any part of the equipment can cause an increase in X-radiation, adequate advice should be included in the information about the equipment, warning of the circumstances which could cause the increase and stating the precautions which should be taken.

## 8 Maintenance

8.1 The equipment should be so designed that the main units can be replaced readily, without elaborate recalibration or readjustment.

8.2 Equipment should be so constructed and installed that it is readily accessible for inspection and maintenance purposes.

8.3 Adequate information should be provided to enable the equipment to be properly operated and maintained. The information should:

- .1 in the case of equipment so designed that fault diagnosis and repair is practicable down to component level, provide full circuit diagrams, component layouts and a component parts list; and

- .2 in the case of equipment containing complex modules in which fault diagnosis and repair down to component level are not practicable, contain sufficient information to enable a defective complex module to be located, identified and replaced. Other modules and those discrete components which do not form part of modules should also meet the requirements of .1 above.

9 Marking and identification

Each unit of the equipment should be externally marked with the following information which should be clearly visible in the normal installed position:

- .1 identification of the manufacturer;
  - .2 equipment type number or model identification under which it was type tested; and
  - .3 serial number of the unit.
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