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RESOLUTION A.605(15)

adopted on 19 November 1987

PERFORMANCE STANDARDS FOR SURVIVAL CRAFT TWO-WAY
VHF RADIOTELEPHONE APPARATUS

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,

CONSIDERING resolution MSC.6(48) whereby the Maritime Safety Committee adopted a revised chapter III of the International Convention for the Safety of Life at Sea, 1974,

RECOGNIZING the need to prepare performance standards for survival craft two-way VHF radiotelephone apparatus for use in the global maritime distress and safety system (GMDSS) in order to ensure the operational reliability of such equipment,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its fifty-fourth session,

1. ADOPTS the Recommendation on Performance Standards for Survival Craft Portable Two-Way VHF Radiotelephone Apparatus and the Recommendation on Performance Standards for Two-Way VHF Radiotelephone Apparatus for Fixed Installation in Survival Craft, the text of which is set out in Annexes 1 and 2, respectively, to this resolution;

2. RECOMMENDS Member Governments to ensure that survival craft two-way radiotelephones for use in search and rescue operations which will form part of the global maritime distress and safety system (GMDSS) conform to performance standards not inferior to those specified in Annexes 1 and 2 to the present resolution.

ANNEX 1

RECOMMENDATION ON PERFORMANCE STANDARDS FOR SURVIVAL CRAFT
PORTABLE TWO-WAY VHF RADIOTELEPHONE APPARATUS

1 Introduction

The survival craft portable two-way VHF radiotelephone, in addition to meeting the requirements of the Radio Regulations, the relevant CCIR Recommendations and the general requirements set out in resolution A.569(14), should comply with the following performance standards.

2 General

2.1 The equipment should be portable and capable of being used for on-scene communication between survival craft, between survival craft and ship and between survival craft and rescue unit. It may also be used for on-board communications when capable of operating on appropriate frequencies.

2.2 The equipment should comprise at least:

.1 an integral transmitter/receiver including antenna and battery;

.2 an integral control unit including a press-to-transmit switch; and

.3 an internal microphone and loudspeaker.

2.3 The equipment should:

.1 be capable of being operated by unskilled personnel;

.2 be capable of being operated by personnel wearing gloves;

.3 be capable of single-handed operation except for channel selection;

.4 withstand drops on to a hard surface from a height of 1 m;

.5 be watertight to a depth of 1 m for at least 5 min;

.6 maintain watertightness when subjected to a thermal shock of 45°C under conditions of immersion;

.7 not be unduly affected by seawater or oil;

.8 have no sharp projections which could damage survival craft;

.9 be of small size and light weight;

.10 be capable of operating in the ambient noise level likely to be encountered on board ships or in survival craft;

.11 have provisions for its attachment to the clothing of the user; and

.12 be resistant to deterioration by prolonged exposure to sunlight.

3 Class of emission, frequency bands and channels

3.1 The two-way radiotelephone should be capable of operation on the frequency 156.800 MHz (VHF channel 16) and on at least one additional channel.

3.2 All channels fitted should be for single-frequency voice communication only.

3.3 The class of emission should comply with appendix 19 of the Radio Regulations.

4 Controls and indicators

4.1 An on/off switch should be provided with a positive visual indication that the radiotelephone is switched on.

4.2 The receiver should be provided with a manual volume control by which the audio output may be varied.

4.3 A squelch (mute) control and a channel selection switch should be provided.

4.4 Channel selection should be easily performed and the channels should be clearly discernible.

4.5 Channel indication should be in accordance with appendix 18 of the Radio Regulations.

4.6 It should be possible to determine that channel 16 has been selected in all ambient light conditions.

5 Permissible warming-up period

The equipment should be operational within 5 s of switching on.

6 Safety precautions

The equipment should not be damaged by the effects of open-circuiting or short-circuiting the antenna.

7 Transmitter power

The effective radiated power should be a minimum of 0.25 W. Where the effective radiated power exceeds 1 W, a power reduction switch to reduce the power to 1 W or less is required. When this equipment provides for on-board communications, the output power should not exceed 1 W on these frequencies.

8 Receiver parameters

8.1 The sensitivity of the receiver should be equal to or better than 2 μV e.m.f. for a SINAD ratio of 12 dB at the output.

8.2 The immunity to interference of the receiver should be such that the wanted signal is not seriously affected by unwanted signals.

9 Antenna

The antenna should be vertically polarized and, as far as practicable, be omnidirectional in the horizontal plane. The antenna should be suitable for efficient radiation and reception of signals at the operating frequency.

10 Receiver output

10.1 The audio output should be sufficient to be heard in the ambient noise level likely to be encountered on board ships or in a survival craft.

10.2 In the transmit condition, the output of the receiver should be muted.

11 Environmental conditions

The equipment should be so designed as to operate over the temperature range -20°C to +55°C. It should not be damaged in stowage throughout the temperature range -30°C to +65°C.

12 Power supply

12.1 The source of energy should be integrated in the equipment. In addition, provision may be made to operate the equipment using an external source of electrical energy.

12.2 The source of energy should have sufficient capacity to ensure 8 h operation at its highest rated power with a duty cycle of 1:9. This duty cycle is defined as 6 s transmission, 6 s reception above squelch opening level and 48 s reception below squelch opening level.

12.3 Portable two-way radiotelephone equipment may be equipped with a primary or secondary battery. Primary batteries shall have a shelf life of at least 2 years.

12.4 Where secondary batteries are used, suitable arrangements should be made for the availability of fully charged cells in the event of a distress situation.

13 Labelling

In addition to the items specified in resolution A.569(14) on general requirements, the following should be clearly indicated on the exterior of the equipment:

.1 brief operating instructions; and

.2 expiry date for the primary batteries, if any.

ANNEX 2

RECOMMENDATION ON PERFORMANCE STANDARDS FOR TWO-WAY VHF RADIOTELEPHONE APPARATUS FOR FIXED INSTALLATION IN SURVIVAL CRAFT

1 Introduction

The survival craft two-way VHF radiotelephone for fixed installations, in addition to meeting the requirements of the Radio Regulations, the relevant CCIR Recommendations and the general requirements set out in resolution A.569(14), should comply with the following performance standards.

2 General

2.1 The equipment should be capable of being used for on-scene communication between survival craft, between survival craft and ship and between survival craft and rescue unit.

2.2 The equipment should comprise at least:

.1 a transmitter and receiver;

.2 an antenna which may be fixed to the equipment or mounted separately; and

.3 a microphone with a press-to-talk switch and a loudspeaker.

2.3 The equipment should:

.1 be capable of being operated by unskilled personnel;

.2 be capable of being operated by personnel wearing gloves;

.3 withstand such shocks and vibration as might occur in survival craft;

.4 be watertight to a depth of 1 m for at least 5 min;

.5 maintain watertightness when subjected to a thermal shock of 45°C under conditions of immersion;

.6 not be unduly affected by seawater or oil;

.7 have no sharp projections which could injure personnel;

.8 be capable of operating in the ambient noise level likely to be encountered in survival craft; and

.9 be so designed that it can be readily mounted in a survival craft.

3 Class of emission, frequency bands and channels

3.1 The two-way radiotelephone should be capable of operation on the frequency 156.800 MHz (VHF channel 16) and on at least one additional channel.

3.2 All channels fitted should be for single-frequency voice communication only.

3.3 The class of emission should comply with appendix 19 of the Radio Regulations.

4 Controls and indicators

4.1 An on/off switch should be provided with a positive visual indication that the radiotelephone is switched on.

4.2 The receiver should be provided with a manual volume control by which the audio output of the loudspeaker may be varied. Where a handset is provided, this manual volume control of the loudspeaker should not influence the audio output of the handset.

4.3 A squelch (mute) control and a channel selection switch should be provided.

4.4 Channel selection should be easily performed and the channels should be clearly discernible.

4.5 Channel indication should be in accordance with appendix 18 of the Radio Regulations.

4.6 It should be possible to determine that channel 16 has been selected in all ambient light conditions.

5 Permissible warming-up period

The equipment should be operational within 5 s of switching on.

6 Safety precautions

The equipment should not be damaged by the effects of open-circuiting or short-circuiting the antenna.

7 Transmitter power

The R.F. output power should be a minimum of 0.25 W. Where the R.F. output power exceeds 1 W a power reduction switch to reduce the output power to 1 W or less is required.

8 Receiver parameters

8.1 The sensitivity of the receiver should be equal to or better than 2 μV e.m.f. for a SINAD ratio of 12 dB at the output.

8.2 The immunity to interference of the receiver should be such that the wanted signal is not seriously affected by unwanted signals.

9 Antenna

The antenna should be vertically polarized and, as far as practicable, be omnidirectional in the horizontal plane. The antenna should be suitable for efficient radiation and reception of signals at the operating frequency.

10 Receiver output

10.1 The audio output should be sufficient to be heard in the ambient noise level likely to be encountered in survival craft.

10.2 In the transmit condition, the output of the receiver should be muted.

11 Environmental conditions

The equipment should be so designed as to operate over the temperature range -20°C to +55°C. It should not be damaged in stowage throughout the temperature range -30°C to +65°C.

12 Power supply

12.1 The source of energy may be integrated in the equipment or external to it.

12.2 The source of energy should have sufficient capacity to ensure 8 h operation at its highest rated power with a duty cycle of 1:9. This duty cycle is defined as 6 s transmission, 6 s reception above squelch opening level and 48 s reception below squelch opening level.

12.3 The two-way radiotelephone equipment may be equipped with a primary or secondary battery. Primary batteries shall have a shelf life of at least 2 years.

12.4 Where secondary batteries are used, suitable arrangements should be made to ensure the availability of fully charged cells at all times.

13 Labelling

In addition to the items specified in resolution A.569(14) on general requirements, the following should be clearly indicated on the exterior of the equipment:

.1 brief operating instructions; and

.2 expiry date for the primary batteries, if any.
