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OPERATIONAL STANDARDS FOR RADIOTELEPHONE
WATCH RECEIVERS

THE ASSEMBLY,

NOTING Article 16(i) of the Convention on the Inter-Governmental Maritime Consultative Organization concerning the functions of the Assembly,

BEARING IN MIND the provisions of Regulations 7, 10 and 16 of Chapter IV of the International Convention for the Safety of Life at Sea, 1974,

HAVING CONSIDERED the Report of the Maritime Safety Committee on its thirty-fifth session,

RESOLVES to adopt the Recommendation on Operational Standards for radiotelephone watch receivers, annexed to this Resolution,

RECOMMENDS Administrations to ensure that shipborne radiotelephone watch receivers conform to operational standards not inferior to those specified in the Recommendation.

ANNEX

RECOMMENDATION ON OPERATIONAL STANDARDS
FOR RADIOTELEPHONE WATCH RECEIVERS

1. Introduction

The Radiotelephone Watch Receiver as referred to in Regulations 7, 10 and 16 of Chapter IV of the International Convention for the Safety of Life at Sea, 1974, should comply with these minimum operational standards. Before a new type of radiotelephone watch receiver is approved, the Administration concerned should be satisfied with its operation by practical tests, made under conditions equivalent to those obtained in practice.

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2. General

The equipment comprises the following:

- (a) a receiver;
- (b) a loudspeaker;
- (c) a filtering unit and/or a muting device to silence the loudspeaker in the absence of any of the signals stated in sub-paragraph 5.1;
- (d) additionally, a facility may be provided to automatically disable the filtering unit and/or the muting device for the duration of the radiotelephone silence periods.

3. Receiver

3.1 Frequencies and classes of emission

The receiver should be fixed in tune on the frequency 2182 kHz and be capable of receiving signals of at least classes A2, A2H, A3 and A3H* emission.

3.2 Selectivity and audio frequency pass band

The selectivity and the audio pass band of the receiver should be such that the intelligibility of speech and the signals stated in sub-paragraph 5.1 are satisfactory.

3.3 Sensitivity

For classes A3 and A3H emission, the sensitivity of the receiver should be equal to or better than 30 microvolts for a signal-to-noise ratio of 20 dB at the audio output terminals.

3.4 Audio output

The audio power output should be sufficient to be heard in the ambient noise level normally to be expected in the part of the ship in which the equipment is installed.

* The World Maritime Administrative Radio Conference, Geneva 1974, instructed CCIR to study the use of classes of emission A3A and A3J for distress and safety purposes. This study should be completed in time for a decision by the next competent World Administrative Radio Conference on the date for the final conversion to classes of emission A3A and A3J on the carrier frequency 2182 kHz. Subsequent further consideration of the use of these classes of emission may therefore be required.

3.5 Volume control

The receiver should be provided with a manual volume control by which the audio output may be varied between the maximum level and a low but audible level. It should be possible, with a control not accessible to the user, to adjust the low output level.

3.6 Automatic gain control

The receiver should be provided with automatic gain control.

4. Filtering unit

4.1 If the equipment is provided with a filtering unit it should select the frequencies 1300 Hz and 2200 Hz. These frequencies are subject to a tolerance of ± 1.5 per cent. As far as possible, frequencies outside the above limits should be suppressed.

4.2 It should be possible to switch the filtering unit in and out of circuit manually.

5. Muting device

5.1 If the equipment is provided with a muting device it should respond, by opening to the full audio pass band condition, to the following signals:

- (a) the radiotelephone alarm signal as defined in the Radio Regulations (No. 1465);
- (b) the signal preceding a vital navigational warning as defined in the Radio Regulations (No. 1476AA);
- (c) additionally, the muting device may also respond to emergency position-indicating radio beacon (EPIRB) signals as defined in the Radio Regulations (No. 1476B) provided that the signal consists of marks and spaces each having a nominal duration of one second.

5.2 The muting device should respond to the signals mentioned in sub-paragraph 5.1 as follows:

- (a) for input levels producing a signal-to-noise ratio equal to or greater than 10 dB at the audio output terminals within a period sufficiently long to avoid unwanted responses, but not longer than 6 seconds;

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- (b) with intermittent interference caused by atmospherics and powerful unwanted signals, without manual adjustments being required.

5.3 The muting device should not, as far as practicable, be actuated by atmospherics or by strong signals other than those described in sub-paragraph 5.1.

5.4 It should be possible to switch the equipment to the full audio pass band condition manually.

5.5 After the mute has lifted it should only be possible to reset the equipment manually to the mute condition.

5.6 Facilities should be provided to enable routine testing of the muting device without causing signals to be radiated.

6. Controls and indicators

All controls should be of such size as to permit normal adjustment to be easily performed. The function and the setting of the controls should be clearly indicated. Only those controls listed below should be provided on the exterior of the equipment:

- on/off switch with a visual indication that the equipment is switched on;
- volume control to adjust the audio output;
- control for dimming any light on the equipment;
- filtering unit control where sub-paragraph 4.2 is applicable;
- muting device controls where sub-paragraphs 5.4 and 5.5 are applicable;
- control where sub-paragraph 11.5 is applicable.

7. Permissible warming-up period

The equipment should be operational within one minute of switching on.

8. Safety precautions

8.1 The equipment should be so designed and constructed that it is protected against damage from radio frequency energy normally encountered on board the ship. The equipment should operate normally without further attention when the signal is removed.

8.2 Provision should be made for protecting the receiver and muting its output when the ship's own transmitter is radiating on 2182 kHz.

8.3 The receiver should have means of protection against damage due to static voltages which may appear at its input.

8.4 Means should be provided for earthing the case of the equipment but this should not cause any terminal of the source of electrical energy to be earthed.

8.5 As far as practicable, accidental access to dangerous voltages within the equipment should be prevented and an appropriate warning notice be affixed.

9. Durability and resistance to effects of climate

The equipment should continue to operate in accordance with the operational standards contained in this recommendation under the conditions of sea state, vibration, humidity and change of temperature likely to be experienced in a ship.

10. Power supply

10.1 The equipment should continue to operate in accordance with the operational standards contained in this recommendation in the presence of variations of the power supply normally to be expected in a ship.

10.2 Provision should be made for protecting the equipment from the effects of excessive voltages, transients and reversal of the power supply polarity.

11. Miscellaneous

11.1 The equipment should be so designed as to limit mutual interference with other electronic equipment, such that satisfactory operation is ensured.

11.2 The equipment should be provided with an external indication of manufacture, type and/or number.

11.3 Information should be provided to enable competent members of the ship's staff to operate and maintain the equipment efficiently.

11.4 The internal parts of the equipment should be easily accessible for inspection and maintenance purposes.

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11.5 When sub-paragraph 2(d) is applicable, the equipment should automatically switch to the full audio pass band condition for the duration of the radiotelephone silence periods by connection to a clock or by other approved means. This provision should be capable of being taken out of operation at any time.
