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RESOLUTION A.385(X)
adopted on 14 November 1977

OPERATIONAL STANDARDS FOR VHF RADIOTELEPHONE INSTALLATIONS

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 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-sixth session,

RESOLVES to adopt the Recommendation on Operational Standards for VHF Radiotelephone Installations, annexed to this Resolution,

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

ANNEX

RECOMMENDATION ON OPERATIONAL STANDARDS FOR VHF
RADIOTELEPHONE INSTALLATIONS

1. Introduction

The VHF Radiotelephone Installation should, in addition to meeting the requirements of the Radio Regulations, comply with the following operational standards.

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2. General

2.1 The installation may consist of more than one equipment which may be capable of operation on single-frequency channels and/or two-frequency channels in one or more of the following categories:

- (a) distress, safety and calling;
- (b) inter-ship;
- (c) port operation;
- (d) ship movement;
- (e) public correspondence.

2.2 The equipment comprises:

- (a) a transmitter/receiver;
- (b) an integral and/or one or more separate control units;
- (c) a microphone with a press-to-transmit switch, the microphone may be combined with a telephone in a handset;
- (d) an internal or external loudspeaker.

2.3 The installation may also include additional receivers.

3. Frequency bands and channels

3.1 (a) Each equipment designed for operation on single-frequency channels should be capable of simplex operation throughout the band 156.300 MHz to 156.875 MHz.

(b) Each equipment designed for operation on two-frequency channels should be capable of simplex and semi-duplex operation throughout the bands as follows:

156.025 MHz to 157.425 MHz for transmitting and
160.625 MHz to 162.025 MHz for receiving.

In addition, facilities for duplex operation on two-frequency channels are recommended.

3.2 The installation should be capable of transmission and reception on the channels considered by the Administration necessary for the service, but in all cases on the channels 6 and 16.

3.3 Provisions should be made for changing from transmission to reception by use of a press-to-transmit switch. Additionally, facilities for operation on two-frequency channels without manual control may be provided.

3.4 Change of frequency should be capable of being made as rapidly as possible, but in any event within five seconds.

3.5 The time taken to switch from the transmit to the receive conditions, and vice versa, should not exceed 0.3 seconds.

4. Controls and indicators

4.1 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.

4.2 The controls should be illuminated as necessary, so as to enable satisfactory operation of the equipment.

4.3 Means should be provided to reduce to extinction any light output from the equipment which is capable of interfering with safety of navigation.

4.4 An on/off switch should be provided for the entire installation with a visual indication that the installation is switched on.

4.5 The equipment should indicate the channel number, as given in the Radio Regulations, to which it is tuned. It should allow the determination of the channel number under all conditions of external lighting. Where practicable channel 16 should be distinctively marked.

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

4.7 A squelch control should be provided on the exterior of the equipment.

4.8 If the external controls are assembled on a separate control unit and more than one such control unit is provided, the one on the bridge should have priority over the others. When there is more than one control unit, indication should be given to the other(s) that the equipment is in operation.

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5. Permissible warming-up period

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

6. Safety precautions

6.1 Means should be provided, as appropriate, for earthing exposed metallic parts of the installation, but this should not cause any terminal of the source of electrical energy to be earthed, unless special precautions are taken, to the satisfaction of the Administration.

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

6.3 The equipment, when operating, should not be damaged by the effects of open-circuited or short-circuited antenna terminals for a period of at least 5 minutes.

7. 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 expected on board ships.

8. Power supply

8.1 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 likely to be expected on board ships.

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

8.3 If provision is made for operating the installation from alternative sources of electrical energy, arrangements for rapidly changing from one source of energy to the other should be incorporated.

9. Protection against interference

9.1 All reasonable and practicable steps should be taken to eliminate the causes of, and to suppress, electromagnetic interference between the installation and other electronic equipment on board.

9.2 No unit of the installation shall be fitted within the minimum safe distance at which they may be mounted from a standard or a steering magnetic compass. These distances should be clearly indicated on the exterior of each unit.

10. Transmitter output power

10.1 The transmitter output power should be between 6 and 25 watts.

10.2 Provision should be made for reducing the transmitter output power to a value of between 0.1 and 1 watt.

11. Receiver parameters

11.1 The sensitivity of the receiver should be equal to or better than 2 microvolts for a signal-to-noise ratio of 20 dB.

11.2 The selectivity of the receiver should be such that intelligibility of the wanted signal is not seriously affected by unwanted signals.

12. Loudspeaker and telephone handset

12.1 The receiver output should be suitable for use with a loudspeaker and/or a telephone handset. The audio output should be sufficient to be heard in the ambient noise level likely to be expected on board ships.

12.2 It should be possible to switch off the loudspeaker without affecting the audio output of the telephone handset, if provided.

12.3 In the transmit condition during simplex operation the output of the receiver shall be muted.

12.4 In the transmit condition during duplex operation, only the telephone handset shall be in circuit. Care should be taken to prevent harmful electrical or acoustic feedback, which could cause singing.

13. Miscellaneous

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

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

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