

RECOMMENDATION 219-1

**ALARM SIGNAL FOR USE ON THE MARITIME RADIOTELEPHONY
DISTRESS FREQUENCY OF 2182 kHz**

(1951-1953-1956-1966)

The CCIR,

CONSIDERING

- (a) that it is desirable and practicable to establish an internationally agreed alarm signal for use on the calling and distress frequency of 2182 kHz (see Art. 39 of the Radio Regulations);
- (b) that the alarm signal should be such as to:
- provide reliable operation of automatic alarm equipment;
 - provide a distinctive signal, which is readily recognized aurally, when received on a loudspeaker or headphones;
 - be capable of being received through interference from speech transmissions, through other kinds of interference, and through noise;
 - avoid false responses when received either aurally or by automatic means;
 - be capable of being produced by a simple manual device, as well as by automatic means;
- (c) that the alarm signal should be such as to permit the construction of alarm equipment which is rugged, dependable, stable in performance, of low cost, of easy production, of long life with a minimum of maintenance, and which can be used with existing maritime radiotelephone equipment;
- (d) that to help in clearing the calling and distress frequency channel of emissions from other stations the alarm signal and detecting device should be effective beyond the range at which speech transmission is satisfactory;
- (e) that the automatic alarm equipment should be capable of operating, in as short a time as possible, consistent with the avoidance of false responses;
- (f) that the results of the further examination of this problem by the administrations which participated in Study Programme 29, Geneva, 1951, are sufficiently conclusive to determine the essential characteristics of the signal, including tolerances that should be recommended for international adoption;
- (g) that it is possible to specify the minimum performance standards for automatic alarm equipment, for both transmission and reception, to such an extent that future progress and development are not hampered;
- (h) that it is undesirable that the specification of performance standards for automatic alarm equipment should exceed in scope the requirements already established by international agreement for automatic alarm devices, intended for the reception of the international alarm signal or the international distress signal in radiotelegraphy, normally transmitted on the frequency 500 kHz (see Nos. 3281 and 3282, and Appendix 36, § 1 of the Radio Regulations; and Chapter IV, Regulation 11 of the International Convention for the Safety of Life at Sea, London, 1974),

UNANIMOUSLY RECOMMENDS

1. that the alarm signal described below should be adopted internationally, for use on the maritime radiotelephony calling and distress frequency of 2182 kHz;
 - 1.1 the alarm signal shall consist of two substantially sinusoidal audio-frequency tones, transmitted alternately. One tone shall have a frequency of 2200 Hz and the other a frequency of 1300 Hz. The duration of each tone shall be 250 ms;
 - 1.2 the tolerance of the frequency of each tone shall be $\pm 1.5\%$; the tolerance on the duration of each tone shall be ± 50 ms; the interval between successive tones shall not exceed 50 ms; the ratio of the amplitude of the stronger tone to that of the weaker shall be within the range 1 to 1.2;
 - 1.3 when generated by automatic means, the alarm signal shall be sent continuously for a period of at least 30 s but not exceeding one minute; when generated by other means, the signal shall be sent as continuously as is practicable over a period of approximately one minute;

2. that the automatic devices, intended for the reception of the alarm signal in question, should fulfil the following conditions:

2.1 the frequencies of maximum response of the tuned circuits, and other tone selecting devices, shall be subject to a tolerance of $\pm 1.5\%$ in each instance; and the response shall not fall below 50% of the maximum response for frequencies within 3% of the frequency of maximum response;

2.2 in the absence of noise and interference, the automatic receiving equipment shall be capable of operating from the alarm signal in a period of not less than four and not more than six seconds;

2.3 the automatic receiving equipment shall respond to the alarm signal, under conditions of intermittent interference caused by atmospheric and powerful signals other than the alarm signal, preferably without any manual adjustment being required during any period of watch maintained by the equipment;

2.4 the equipment shall not be actuated by atmospheric or by strong signals other than the alarm signal;

3. that the automatic alarm equipment for both transmission and reception, on the calling and distress frequency of 2182 kHz, shall fulfil the following conditions:

3.1 the equipment shall be effective beyond the range at which speech transmission is satisfactory;

3.2 the equipment shall be capable of withstanding vibration, humidity, changes of temperature and variations in power supply voltage equivalent to the severe conditions experienced on board ships at sea, and shall continue to operate under such conditions;

3.3 the equipment should, as far as practicable, give warning of faults that would prevent the apparatus from performing its normal functions during watch hours;

4. that, before any type of automatic alarm equipment for transmission and reception on the calling and distress frequency of 2182 kHz is approved for use on ships, the administrations having jurisdiction over those ships should be satisfied by practical tests, made under operating conditions equivalent to those obtained in practice, that the equipment complies with the provisions of § 1, 2 and 3 of this Recommendation.
