

(10) Immunity to False Operation—

(a) The device shall be tested with a signal which conforms successively to the characteristics in subparagraphs (i) to (iii) of this paragraph. The application of any such signal for a period of one minute shall not cause the device to actuate the audible alarms; the signal level of each tone shall be that specified in subclause (3) of this clause:

- (i) The signal shall consist of two sinusoidal tones impressed simultaneously, one having any frequency in the range 1300 Hz \pm 2.0 percent and the other having any frequency in the range 2200 Hz \pm 2.0 percent; and
- (ii) The signal shall consist of a continuously-impressed tone having any frequency in the range 1300 Hz \pm 2.0 percent, superimposed upon which is any tone whose frequency is in the range 2200 Hz \pm 2.0 percent and which is switched on and off for alternate periods of 250 milliseconds; and
- (iii) The signal shall consist of a continuously-impressed tone having any frequency in the range 2200 Hz \pm 2.0 percent, superimposed upon which is any tone whose frequency is in the range 1300 Hz \pm 2.0 percent and which is switched on and off for alternate periods of 250 milliseconds.

(b) The application, for a period of five minutes, of a speech signal at any peak level up to 5 watts shall not cause the device to actuate the audible alarms.

4. Alarms—(1) An audible-alarm system shall be associated with the device. This system shall include a bell at the device.

(2) The power supply for the audible alarms shall be a battery of secondary cells. The power supply circuit for the alarm shall be connected via a fuse or fuses used only for this purpose to an otherwise unfused circuit taken from the battery of secondary cells, and shall be such that the audible-alarm circuit is not affected should any fuse other than its own fuse or fuses be ruptured.

(3) (a) The audible alarms shall not be actuated should the direct current voltage feeding the electrodes of one or more of the valves or transistors of the device fall for a period shorter than three seconds, but shall be actuated within 15 seconds of a sustained fall to a voltage below a value between 0 percent and 10 percent above that at which the device just fails to respond to the test signal specified in clause 3 (4) of this Part of this Schedule, applied at a level of 50 mW for a period of 15 seconds.

(b) Where devices incorporate valves, the audible alarms shall not be actuated should a disconnection in the circuits of the filaments of the valves occur for a period shorter than three seconds, but shall be actuated within 15 seconds of a sustained disconnection. However, where the filaments of these valves are supplied from any battery, the audible alarms shall be actuated within 15 seconds of a disconnection in the circuits of their filaments.

(4) The device shall not require manual resetting unless the audible alarms have been actuated.

(5) (a) The device shall include a manual resetting switch so that it can be reset after registering a Radiotelephone alarm-signal:

(b) The device shall include a non-locking switch whereby any other bells can be disconnected without affecting the operation of the bell at the device:

(c) The power circuit provided to operate the audible alarms, as required by subclause (2) of this clause shall be controlled by the switch which brings the device into operation:

(d) No other switch shall be fitted for the purpose of de-energising the audible alarms once they have been actuated:

(e) Each of the switches referred to in paragraphs (a) to (c) of this subclause shall be clearly labelled to show its purpose.

(6) It is recognised that certain requirements of this clause cannot be met if there is a failure of the power supply to the audible alarms.

5. Field Tests—(1) General—The device, together with a suitable specified radio-telephone receiver tuned to a frequency of 2182 kHz, shall be installed and operated for 14 days in an area, to be decided by the testing authority, where signal interference on that frequency is known to be severe.

The aerial used for these tests shall be a vertical aerial the height of which lies within the range 6 to 12 m.

(2) *Response to Radio-telephone Alarm-signals*—The device together with a suitable specified radiotelephone receiver shall, to the satisfaction of the testing authority, respond to the radiotelephone alarm-signal or locally generated radiotelephone alarm-signals in the presence of intermittent interference caused by atmospherics and powerful signals other than any additional radiotelephone alarm-signals, without any manual adjustments during the whole period of test.

Locally generated radiotelephone alarm-signals on a frequency of 2182 kHz shall be injected at a level of 30 dB above 1 μ V into the aerial circuit, and the radiotelephone receiver adjusted to give an output in the range 7 to 200 mW, measured in an impedance of 5 ohm across which the device is connected.

(3) *False Alarms*—During the test period specified in subclause (1) of this clause, the testing authority shall be satisfied that the device shall not respond to signals other than the radiotelephone alarm-signal or locally generated radiotelephone alarm-signals, provided the received signals do not in fact simulate a radiotelephone alarm-signal.

6. Tests—General—(1) The laboratory tests shall nominally be carried out at the manufacturer's works. The manufacturer shall provide all the apparatus required for the laboratory tests.

(2) For the field tests, the manufacturer shall be responsible for packing and transport in both directions and for the installation and adjustment of the device.

Should it become apparent for any reasons that the device cannot meet the requirements of the 14-day test, the testing authority shall be entitled to discontinue the field tests forthwith, and the tests shall be recommenced only when the testing authority and the manufacturer are agreed that a reasonable improvement in performance can be expected.

7. Protective Arrangements—(1) All parts and wiring shall be protected from accidental access, and shall be isolated automatically from all sources of high voltage when the means of protection are removed. The term "High voltage" shall be taken to apply to all circuits in which the direct and alternating voltages (other than radio-frequency voltages) combine to give instantaneous voltages greater than 50 volts.

(2) Electrical devices shall incorporate a fuse or fuses.

8. Mechanical Construction—In all respects the mechanical construction and finish of the device shall conform to good standards of engineering practice, and the device shall be suitable for use on board ships at sea.

Part III**Radio-telephone Loudspeaker Watchkeeping Receiver**

1. Scope of Specification—This specification covers the minimum performance of a receiver for use in ships for watchkeeping on the international radiotelephone distress and calling frequency of 2182 kHz and, as such, may form the basis for type-testing.

2. General—(1) The receiver shall be fixed in tune, and shall be suitable for the reception of emissions of Class A2 and Class A3 except when the ship's own radio-telephone transmitter is radiating on 2182 kHz.