

removable cover to protect the controls, and shall be readily removable from the lifeboat for maintenance purposes.

(5) The requirements of this specification shall be met for a range of supply voltage variation of plus and minus 10 percent relative to the nominal supply voltage.

(6) With the exception of the aerial terminals, all points which are not at earth potential shall be enclosed. The aerial terminals shall be guarded against accidental contact.

(7) All parts and wiring in which the direct or alternating voltages or both (other than radio-frequency voltages) combine to give an instantaneous voltage greater than 50 volts shall be protected against accidental access, and shall be isolated automatically from all sources of electrical energy when the means of protection are removed.

3. Climatic and Durability Tests—The equipment shall meet the requirements of this specification when tested under the conditions specified in the "Climatic and Durability Testing of Marine Radio Equipment" applicable to Class B equipment.

4. Aerial and Earth Systems—(1)(a) The equipment shall include a single-wire aerial of high-conductivity stranded or braided wire capable of being supported by the lifeboat mast, without the use of top masts, at a maximum height of at least 7 m above the waterline:

(b) Other approved types of long-wire aerial consisting of between 27 and 29 m of high-conductivity stranded or braided wire may be provided if desired:

(2) All parts of the aerial or aeriels which may come in contact with occupants of the lifeboat when the equipment is in use shall be insulated.

(3) The earth connection shall be made by at least three independent bolted connections to the hull of a metal lifeboat, or to a bare copper earth plate having an area of at least 1.8 m² below the waterline, affixed to the exterior of the hull of a non-metallic lifeboat. The earthing system shall be so designed as to minimise deterioration due to corrosion.

(4) All practicable steps shall be taken to minimise aerial losses under wet conditions.

5. Power Supply—(1) The power supply shall be a 24-volt battery composed of secondary cells, having a capacity such that, after continuously operating the transmitter (under full-power mark conditions) for four hours, the voltage under full-load conditions shall not fall below 21.6 volts. For this test the transmitter shall be tuned to the frequency at which the power consumed is maximum.

This battery shall not supply power to any engine starting motor or ignition system.

(2) (a) Provision shall be made for recharging the battery, in situ, from a dynamo driven by the lifeboat's engine, at a rate necessary to restore the battery to a fully charged condition within 20 hours after it has supplied power to the equipment as specified in subclause (1) of this clause:

(b) Provision shall also be made for completely recharging the battery, in situ, from the ship's main source of energy, and this shall not cause the ship's mains to be earthed.

(3) The battery shall not spill, when tilted to an angle of 60° in any direction from its normal position.

(4) The transmitter and receiver shall be capable of efficient operation, whether the lifeboat's engine is running or not and whether the battery is on charge or not.

(5) The battery shall be electrically isolated from any part of the equipment which is switched off.

(6) If any vibrator power unit is employed, a standby vibrator shall be provided and so controlled by a changeover switch that it may be put into circuit immediately.

6. Transmitter—(1) General—The transmitter shall be capable of sending continuously, but not simultaneously, Class A2 signals on frequencies of 500 and 8364 kHz and Class A1

signals on a frequency of 2182 kHz in accordance with the terms of this specification.

(2) Modulation—(a) When Class A2 signals are being transmitted, the carrier shall be modulated to a depth of 100 percent by an approximately rectangular wave of frequency between 450 and 1350 Hz, so that the carrier is switched on for 30 to 50 percent of a modulation cycle:

(b) When Class A3 signals are being transmitted, it shall be possible to fully modulate the carrier by speech.

(3) Speed of Transmission—The transmitter shall be capable of sending telegraph signals at all speeds up to at least 25 bauds without critical relay adjustment.

(4) Frequency Stability—The transmitter shall comply with the frequency tolerances specified in the Radio Regulations of the International Telecommunication Union current at the time of type-testing, without adjustment and regardless of any variations of the impedance of the aerial or other load to which it is connected.

(5) Operating Facilities—The transmitter shall be ready for operation on full power within 30 seconds of switching on. Should it be necessary to delay the application of certain supply voltages, the delay shall be provided automatically.

(6) Protective Arrangements—The transmitter shall be so designed that, when it is adjusted for maximum power, the aerial may be disconnected or the aerial terminals short-circuited without damage being caused to any part of the equipment.

(7) Automatic Transmission—(a) An electrically powered automatic keying device which may be switched into circuit in place of the key shall be incorporated. This device shall be capable of keying only the signals specified in paragraphs (b) and (c) of this sub clause:

(b) The following automatic transmissions shall be available on 500 kHz:

(i) The radiotelegraph alarm-signal consisting of 12 four-second dashes separated by one-second spaces:

(ii) The radiotelegraph distress call consisting of the radiotelegraph distress signal SOS (three times);

The word DE; and

The lifeboat's call sign (three times), followed by two dashes each of 10 to 15 seconds' duration:

(c) The automatic transmission on 8364 kHz shall consist of the radiotelegraph distress call sequence as detailed in subparagraph (ii) of paragraph (b) of this subclause. The radiotelegraph alarm-signal may also be transmitted on 8364 kHz:

(d) When keying the radiotelegraph alarm-signal, the length of dashes and spaces shall be governed to within ± 0.2 second of their nominal value. After the alarm-signal has been sent the device shall stop keying, leaving the keying circuit open until it is reset:

(e) When the distress call sequence is to be sent, the device shall, within 40 seconds of being switched into circuit, cause the sequence to be keyed, starting at the beginning of the distress call:

(f) When keying the distress call, the speed of keying shall be between 10 and 16 words per minute. The total duration of the keying sequence described in subparagraph (ii) of paragraph (b) of this subclause shall not exceed 90 seconds:

(g) The device shall in this condition automatically repeat this keying sequence once every 12 minutes (approximately), and shall switch off the transmitter between successive transmissions.

(8) A dummy load or loads shall be provided to enable the transmitter to be tested on full power on 500, 2182, and 8364 kHz.

(9) An aerial ammeter and a luminescent indicator to show the