

Federal Communications Commission

§ 80.257

(d) The antenna power must be determined at the operating carrier frequency by the product of the antenna resistance and the square of the average antenna current, both measured at the same point in the antenna circuit at approximately ground potential.

(e) A main transmitter producing more than 250 watts output power must have the output power reduced to not more than 150 watts when used for telegraphy. In stations where a separate telegraph transmitter operable on the same frequencies as the main transmitter with an output power of less than 250 watts, is installed, the power reduction requirement does not apply.

Such separate transmitters must not obtain power from the emergency power supply.

[51 FR 31213, Sept. 2, 1986, as amended at 63 FR 36606, July 7, 1998]

EFFECTIVE DATE NOTE: At 68 FR 46966, Aug. 7, 2003, §80.253 was removed effective October 6, 2003.

§ 80.255 Technical requirements for reserve transmitter.

(a) The following table describes the operating carrier frequency, emission, modulation and average ship station antenna power requirements for the reserve transmitter.

Operating frequency (kHz)	Frequency tolerance		Class of emission	Percentage modulation for amplitude modulation	Modulation for frequency for amplitude modulation	Power into an average ship station antenna
	Parts ¹ in 10 ⁶	Hz ²				
500	³ 1,000	20	A2A and A2B or H2A and H2B.	Not less than 70; not more than 100.	At least 1 frequency between 300 and 1250 Hertz except for transmitters installed after July 1, 1951, at least 1 frequency between 450 and 1250 Hertz.	Not less than 25 watts.
410 and 1 working frequency in the band 415 to 525.	³ 1,000	20	A2A and A3N or H2A and H3N.dododo

¹ For equipment approved before November 30, 1977.
² For equipment approved after November 29, 1977.
³ Except for reserve transmitters whose use is confined solely to safety communications. Such transmitters must maintain a frequency tolerance of 3000 parts in 10.³

(b) A reserve transmitter must operate at its required antenna power when adjusted to the operating frequency and energized by the reserve power supply of the ship station or by an equivalent power supply.

(c) A reserve transmitter must be equipped to measure antenna current.

(d) The antenna power must be determined at the operating carrier frequency by the product of the antenna resistance and the square of the average antenna current both measured at the same point in the antenna circuit at approximately ground potential.

[51 FR 31213, Sept. 2, 1986, as amended at 63 FR 36606, July 7, 1998]

EFFECTIVE DATE NOTE: At 68 FR 46966, Aug. 7, 2003, §80.255 was removed effective October 6, 2003.

§ 80.257 Manufacturing requirements for radiotelegraph automatic alarm receiver (auto alarm).

(a) The auto alarm must consist of:

(1) A radio receiver capable of receiving emissions of classes A1A, A1B, A2A, A2B, H2A, H2B, J2A, and J2B over the frequency range 496 through 504 kHz.

(i) The receiver must reject signals +106 dB above one microvolt at ±150 kHz from the center frequency and +88 dB above one microvolt at ±40 kHz from the center frequency.

(ii) The receiver must respond to signals from 100 microvolts to 1 volt on the center frequency. There must be less than 6 dB variation in sensitivity from 496 kHz through 504 kHz.

(2) A device capable of selecting the alarm signal specified under §80.259 (a) and (b).

(3) A minimum of 3 audible alarm units to meet the three location installation requirements of §80.259(g).

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(4) A testing device to determine locally that the auto alarm system is operative.

(b) The auto alarm may be constructed in one or more units but must be independent of the ship's regular radio receiving apparatus.

(c) A telephone jack must be provided to permit reception by a telephone receiver.

(d) Tuning and timing controls must not be accessible from the exterior of the device.

(e) Once set into operation the audible alarms must continue to function until switches off in the principal radiotelegraph operating room.

(f) A nonlocking or momentary-throw switch must be provided to permit temporary disconnection of the audible alarm on the bridge and in the operator's quarters when the auto alarm system is being tested.

(g) A failure of the auto alarm power supply must activate the audible alarms.

(h) The auto alarm must operate within specifications throughout the temperature range 0-50 degrees Celsius at relative humidities as high as 95%.

(i) The auto alarm must be protected from excessive currents, power supply reversals and voltage variations which could cause damage to any component.

(j) The auto alarm must be capable of operating when subjected to vibrations having a frequency between 20 and 30 Hertz and an amplitude of 0.76 mm (0.03 inch) in a direction at an angle of 30 to 45 degrees with the base of the auto alarm.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44952, Aug. 25, 1993]

EFFECTIVE DATE NOTE: At 68 FR 46966, Aug. 7, 2003, § 80.257 was removed effective October 6, 2003.

§ 80.259 Technical requirements for radiotelegraph auto alarm receiver.

(a) For certification the auto alarm in the absence of interference must be capable of being operated by four consecutive dashes whose length may vary from 6.0 to 3.5 seconds and the intervening spaces vary between 1.5 seconds to 10 milliseconds. These types of auto alarms must not respond to dashes longer than 6.31 seconds or shorter than 3.33 seconds nor to intervening

spaces longer than 1.58 seconds or shorter than 5 milliseconds except as follows:

(1) Non-digital types employing resistance-capacitance timing, approved before October 1, 1969, and placed in service on or before January 1, 1985, must not respond to dashes longer than 7.40 seconds or shorter than 2.80 seconds, nor to space intervals longer than 1.80 seconds or shorter than 5 milliseconds.

(2) Digital types employing a stable clock as the basic timing device, approved before May 1, 1968, and placed in service on or before December 1, 1975, may accept dashes whose lower limits extends down to 3.0 seconds.

(b) The auto alarm must operate with a signal of 100 microvolts RMS at 500 kHz applied to an artificial antenna consisting of a 20 microhenry inductance, a 500 picofarad capacitor, and a 5 ohm resistor connected in series in the absence of any interference and without manual adjustment. It must be capable of operation under these conditions on the following classes of emission:

(1) A1B;

(2) A2B with a carrier modulated at any modulation percentage from 30 through 100 percent with any modulation frequency from 300 through 1350 Hertz; and

(3) H2B with a carrier keyed and emitted at any power level from 3 through 6 decibels below peak envelope power, with any modulation frequency from 300 through 1350 Hertz.

(c) The auto alarm must operate with signal levels up to 1 volt under normal operating conditions.

(d) The auto alarm warning device must not be activated by atmospheric or by any signal from the antenna other than the alarm signal.

(e) The auto alarms must respond to the alarm signal through non-continuous interference caused by atmospheric and powerful signals other than the alarm signal. In the presence of atmospheric or interfering signals, the auto alarm must automatically adjust itself within a reasonable time to the condition in which it can most readily distinguish the alarm signal.