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§ 80.305(a)(3) if the equipment can transmit and receive on 156.800 MHz.

(b) The VHF radiotelephone station must be installed to insure safe and effective operation of the equipment and facilitate repair. It must be protected against vibration, moisture and temperature.

(c) The principal operating position of the radiotelephone station must be in the room from which the ship is normally steered while at sea.

(d) The radiotelephone stations on ships subject to Part II of Title III of the Communications Act must be capable of operating on the frequency 156.800 MHz and in other respects meet the requirements of § 80.143. The radiotelephone stations on ships subject to the Safety Convention must be capable of operating in the simplex mode on the ship station transmitting frequencies specified in the frequency band 156.025 MHz to 157.425 MHz and in the semiduplex mode on the two frequency channels specified in the following table:

Channel designators	Transmitting frequencies (MHz)	
	Ship station	Coast station
60 .....	156.025	160.625
01 .....	156.050	160.650
61 .....	156.075	160.675
02 .....	156.100	160.700
62 .....	156.125	160.725
03 .....	156.150	160.750
63 .....	156.175	160.775
04 .....	156.200	160.800
64 .....	156.225	160.825
05 .....	156.250	160.850
65 .....	156.275	160.875
06 .....	156.300	.....
66 .....	156.325	160.925
07 .....	156.350	160.950
67 .....	156.375	156.375
08 .....	156.400	.....
68 .....	156.425	156.425
09 .....	156.450	156.450
69 .....	156.475	156.475
10 .....	156.500	156.500
11 .....	156.550	156.550
71 .....	156.575	156.575
12 .....	156.600	156.600
72 .....	156.625	.....
13 .....	156.650	156.650
73 .....	156.675	156.675
14 .....	156.700	156.700
74 .....	156.725	156.725
15 .....	156.750	156.750
75 .....	156.775	156.775
16 .....	156.800	156.800
76 .....	156.825	156.825
17 .....	156.850	156.850
77 .....	156.875	.....
18 .....	156.900	161.500

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Channel designators	Transmitting frequencies (MHz)	
	Ship station	Coast station
78 .....	156.925	161.525
19 .....	156.950	161.550
79 .....	156.975	161.575
20 .....	157.000	161.600
80 .....	157.025	161.625
21 .....	157.050	161.650
81 .....	157.075	161.675
22 .....	157.100	161.700
82 .....	157.125	161.725
23 .....	157.150	161.750
83 .....	157.175	161.775
24 .....	157.200	161.800
84 .....	157.225	161.825
25 .....	157.250	161.850
85 .....	157.275	161.875
26 .....	157.300	161.900
86 .....	157.325	161.925
27 .....	157.350	161.950
87 .....	157.375	161.975
28 .....	157.400	162.000
88 .....	157.425	162.025

<sup>1</sup> Guard band.

[51 FR 31213, Sept. 2, 1986; 52 FR 35246, Sept. 18, 1987, as amended at 54 FR 40059, Sept. 29, 1989; 73 FR 4487, Jan. 25, 2008]

## § 80.872 The VHF radiotelephone installation.

The VHF radiotelephone installation includes:

- (a) A VHF radiotelephone transmitter,
- (b) A VHF radiotelephone receiver,
- (c) A power supply,
- (d) An antenna system.

## § 80.873 VHF radiotelephone transmitter.

(a) The transmitter must be capable of transmission of G3E emission on 156.300 MHz and 156.800 MHz, and on frequencies which have been specified for use in a system established to promote safety of navigation. Vessels in waters of other Administrations are required to communicate on any channel designated by that Administration for navigational safety in the bands specified in § 80.871(d).

(b) The transmitter must be adjusted so that the transmission of speech normally produces peak modulation within the limits of 75 percent and 100 percent.

(c) The transmitter must deliver a carrier power between 8 and 25 watts into a 50 ohm effective resistance. Provision must be made for reducing the

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carrier power to a value between 0.1 and 1.0 watts.

(d) The transmitter complies with the power output requirements specified in paragraph (c) of this section when:

(1) The transmitter is capable of being adjusted for efficient use with an actual ship station transmitting antenna meeting the requirements of § 80.876; and

(2) The transmitter has been demonstrated capable, with normal operating voltages applied, of delivering not less than 8 watts of carrier power into 50 ohms effective resistance over the frequency band specified in § 80.871(d). An individual demonstration of the power output capability of the transmitter, with the radiotelephone installation normally installed on board ship, may be required; and

(3) It is certificated as required by subpart F of this part.

[51 FR 31213, Sept. 2, 1986, as amended at 63 FR 36607, July 7, 1998]

### § 80.874 VHF radiotelephone receiver.

(a) The receiver used for providing the watch for navigational safety required by § 80.313 must be certificated by the Commission and capable of effective reception of G3E emission on the frequencies required by § 80.871(d) when connected to the antenna specified in § 80.876.

(b) The receiver must have a usable sensitivity of 0.5 microvolts.

(c) The receiver must deliver adequate audio output power to be heard in the ambient noise level likely to be expected on board ships with a loudspeaker and/or a telephone handset.

(d) In the simplex mode when the transmitter is activated the receiver output must be muted.

[51 FR 31213, Sept. 2, 1986, as amended at 63 FR 36607, July 7, 1998]

### § 80.875 VHF radiotelephone power supply.

(a) There must be readily available for use under normal load conditions a power supply sufficient to simultaneously energize the VHF transmitter at its required antenna power, and the VHF receiver. Under this load condition the voltage of the source of energy

at the power input terminals of the VHF radiotelephone installation must not deviate from its rated value by more than 10 percent on ships completed on or after March 1, 1957, nor by more than 15 percent on ships completed before that date.

(b) When the power supply for the VHF radiotelephone installation consists of batteries, they must be installed in the upper part of the ship, secured against shifting with motion of the ship, capable of operating the installation for 6 hours, and accessible with not less than 26 cm (10 in.) head room.

(c) Means must be provided for charging any rechargeable batteries used in the ship's VHF radiotelephone installation. There must be provided a device which, during charging of the batteries, will give a continuous indication of the charging current.

(d) The VHF radiotelephone installation may be connected to the reserve power supply of a compulsorily fitted radiotelephone or radiotelegraph installation.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44953, Aug. 25, 1993]

### § 80.876 VHF radiotelephone antenna system.

A vertically polarized nondirectional antenna must be provided for VHF radiotelephone installations. The construction and installation of this antenna must insure proper operation in an emergency.

### § 80.877 Controls and indicators required for VHF radiotelephone installation.

The controls and indicators used on equipment of the VHF radiotelephone installation must meet the following standards:

(a) The size of controls must easily permit normal adjustment. The function and the setting of the controls must be clearly indicated.

(b) Controls must be illuminated to permit satisfactory operation of the equipment.

(c) Means must be provided to reduce to extinction any light output from the equipment which could affect safety of navigation.