5. MAINTENANCE AND INSPECTION

The performance and longevity of this equipment depends on careful maintenance. To maintain optimum performance, the following periodic inspections are highly recommended.

(1) Keep the power supply voltage within the specified range.

⚠ WARNING

With the exception of qualified service personnel, do not attempt to inspect or service the interior of this equipment, as doing so may cause fire, electric shock, or malfunction.

Each internal circuit has been fine-tuned. Therefore, be sure not to tune or modify without measuring instruments. If any malfunctions are detected, contact our service center or agents as soon as possible.

5.1 General Maintenance and Inspection

The following table describes the general maintenance and inspection that can be performed with a few common tools.

Number	Item	Maintenance and Inspection
1	Cleaning	Gently clean the surface of the panel, knobs, switches, and top/bottom covers with a soft cloth and silicon oil. Remove dust in the unit using a brush or vacuum cleaner. No oil is needed because this unit has no moving mechanisms inside.
2	Looseness of parts	Inspect for looseness and correctly tighten the following: Screws, nuts, knobs, switches, variable resistors, connectors, and relays inserted into sockets
3	Fuse	If the power source fuse is blown, be sure to determine the cause before replacing it. One spare fuse is included with the equipment.
4	Unit	Remove the plug-in unit from the main chassis to inspect mounted parts for any change in color, burn marks, or other damage. To exchange parts, call our service center or agents.

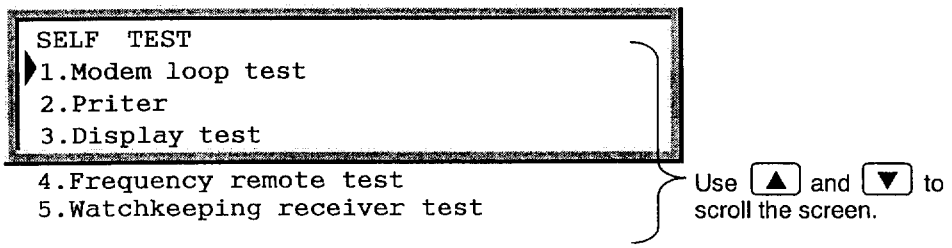
5.2 Maintenance Function in MENU

The NCT-196 DSC terminal has a MENU function (self-tests and displaying ROM version) that can be used to perform the following checks.

5.2.1 Self Diagnosis

The DSC terminal itself is equipped with a self-test function for checking its internal circuits. Although this self-test function can be used to check its internal operation, the operator must still make a decision.
If, as a result of the self test, operation is found to be faulty or an error message is displayed, go to Section 5.2.3, "Troubleshooting" to determine the appropriate corrective actions.

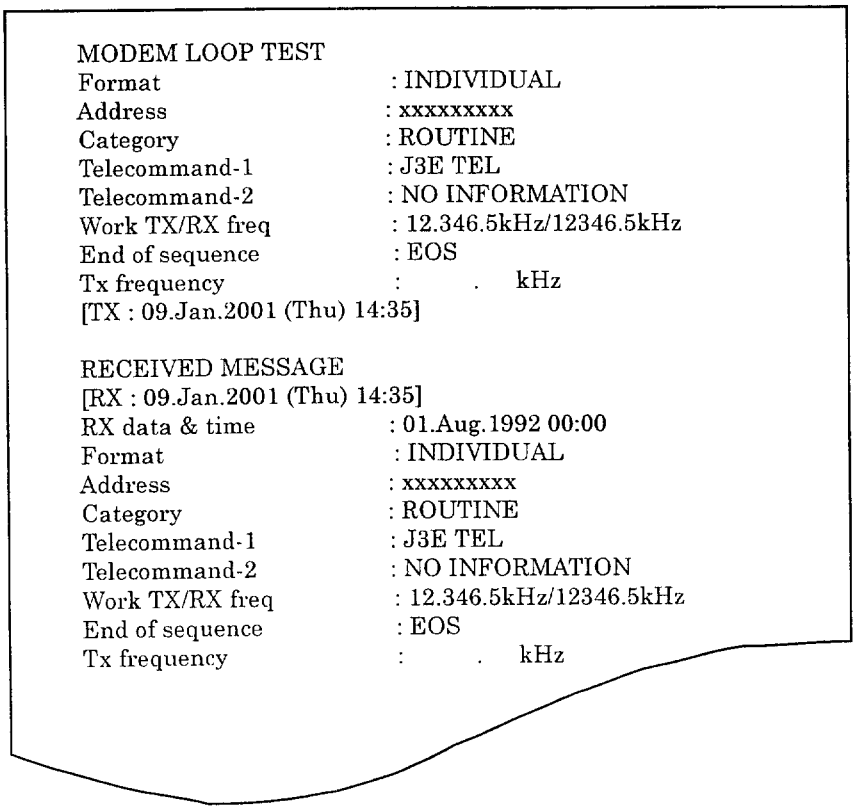
From the "MENU#2-READOUT&SETUP" screen, press [4] and then press [ENT].
The "SELF TEST" screen is displayed.



● Modem loop test

A test message is transmitted and received internally by the DSC terminal (it is not output from the radio), and the self-test function checks that the message is transmitted and received normally. The transmitted message and received message are displayed on the screen. If a printer is connected, both messages are also printed out. Check that the messages are the same as each other.

When you run this test, the message is received in about ● seconds, and execution returns to the "SELF TEST" screen.



Even though the connected printer operates normally, the DSC terminal may be faulty if this test cannot be completed successfully.

● Printer test

This test checks the DSC terminal's printer interface circuit and the connection between the DSC terminal and printer.

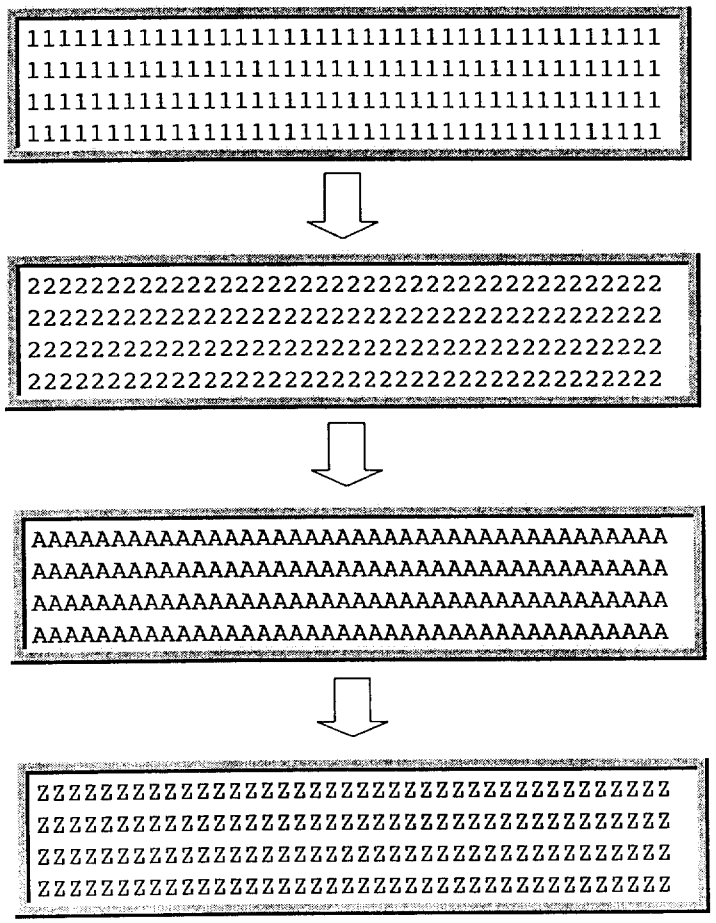
The following is printed.

123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ
123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ
123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ

If this pattern is not printed, the printer connector may be loose, or the printer may be faulty, or the DSC terminal's printer interface circuit may be faulty.

● Display test

This test checks the connection with the LCD unit inside the DSC terminal and also checks that the LCD unit is operating correctly. When you run this test, alphanumerics are continuously displayed across the whole screen. The test continues until you press **STOP** or all characters have been displayed on the screen.



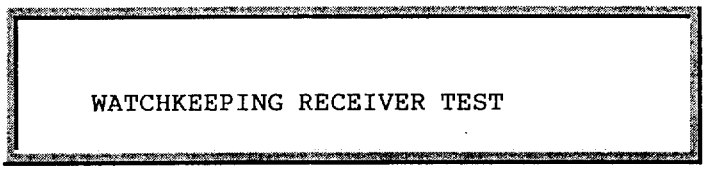
The test runs until all numbers (1 to 9 and 0) and all letters (A to Z) have been displayed.

● Frequency remote test

This test checks, when a radio is connected, whether frequency control is possible. The test is normal when the radio display shows the same frequency as a manually entered frequency, or the radio display shows the same frequency as the pressed frequency button ([ ] or [ ]).

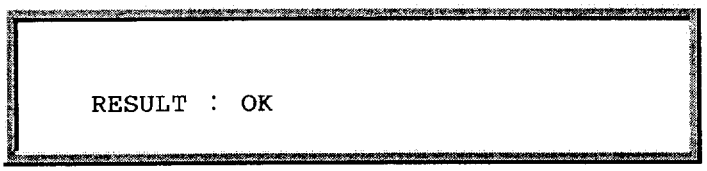
● Watchkeeping receiver test

When you select this item, the self tests start and the following screen is automatically displayed.
To abort the test, press STOP or Func 4 (QUIT).



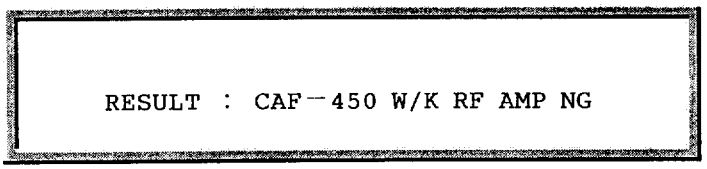
On completion of the test, the result is displayed as follows:

No abnormality detected:

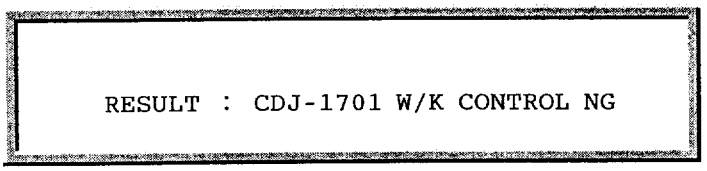


Abnormality detected:

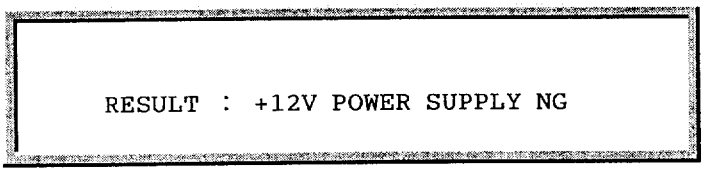
- CAF-450 abnormality detected



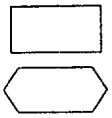
- CDJ-1701 abnormality detected



- +12V power supply abnormality detected



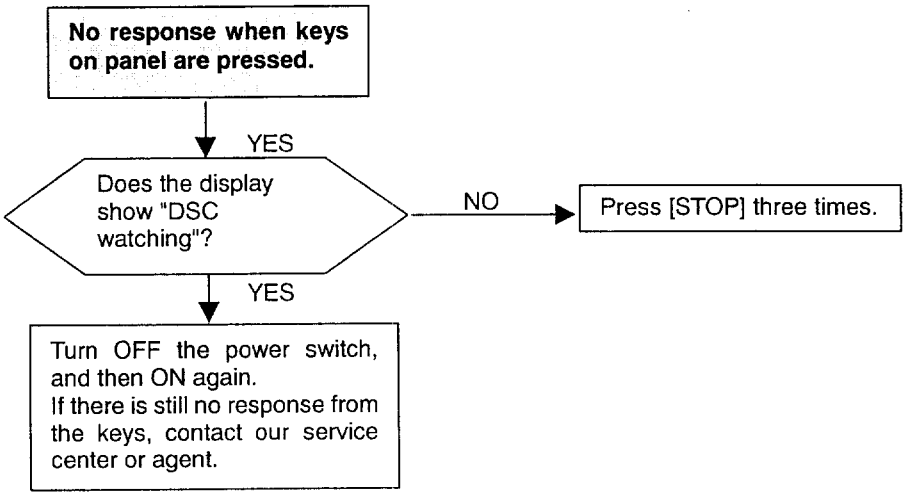
5.2.2 Troubleshooting



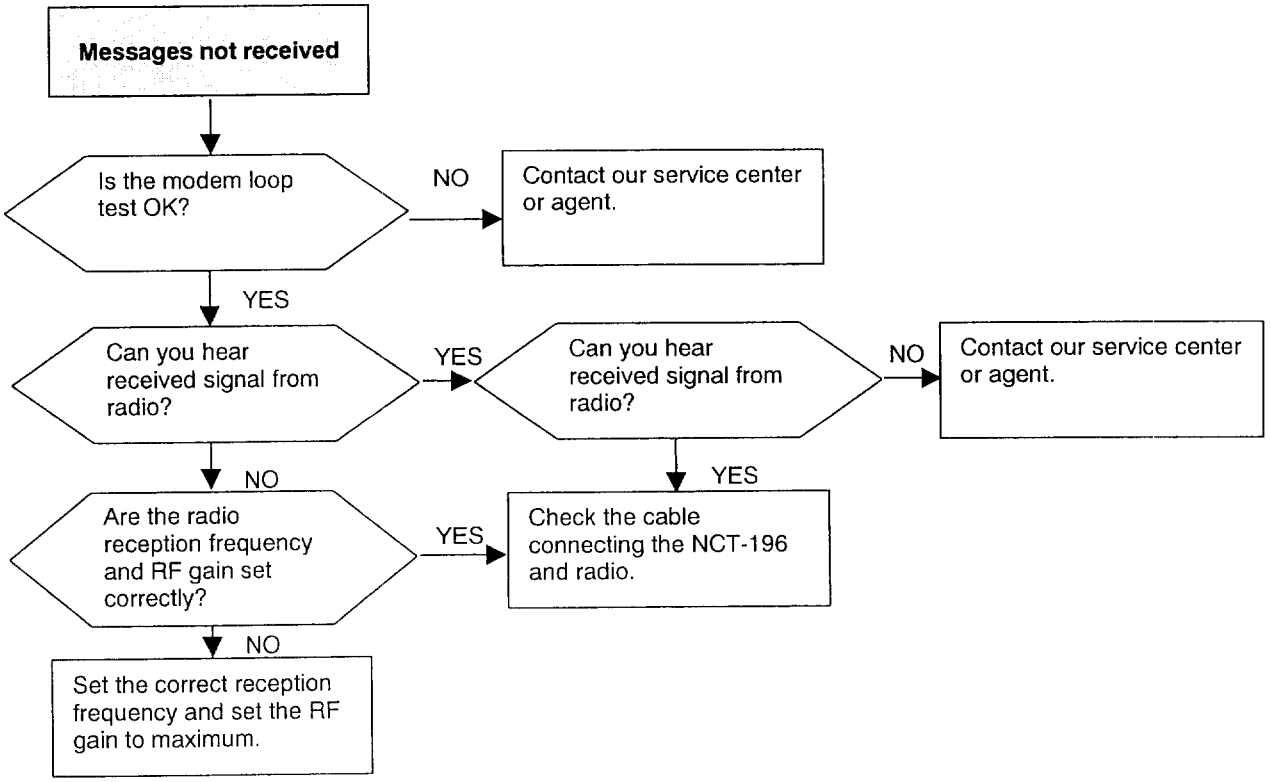
Each rectangle indicates a process.

Each hexagon indicates a decision.

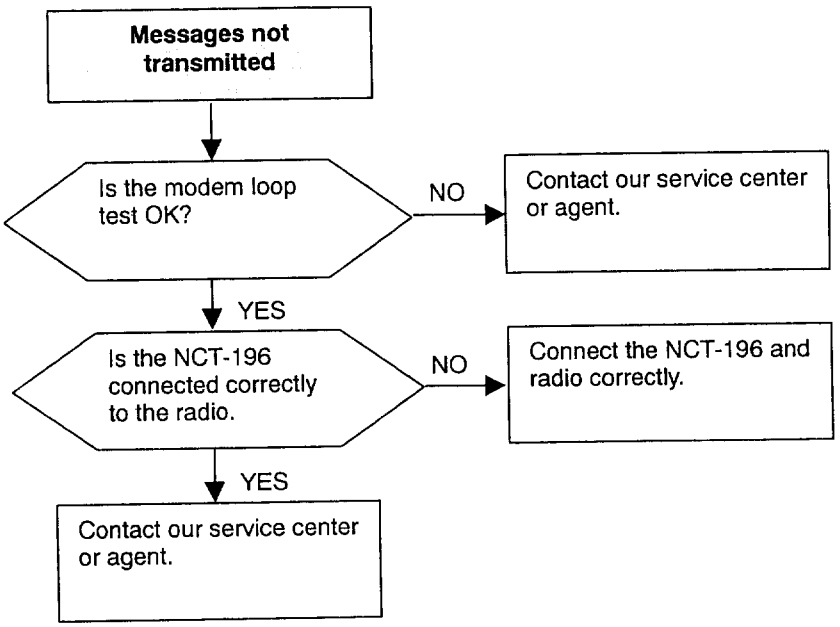
● No response from keys



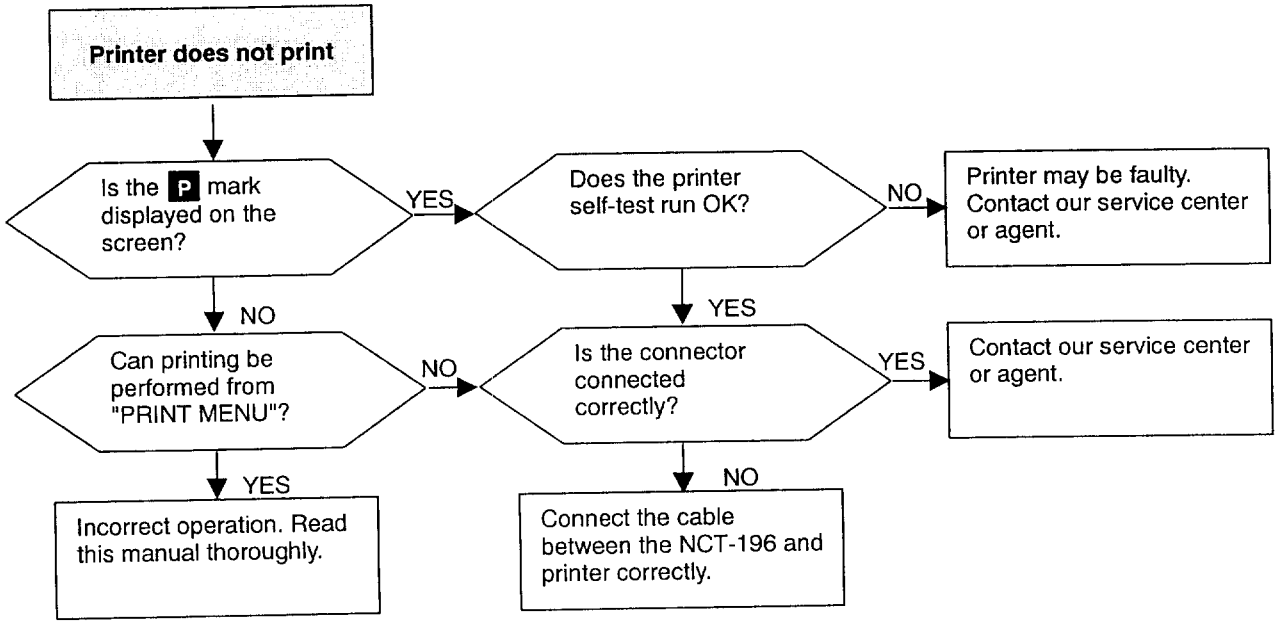
● Messages not received



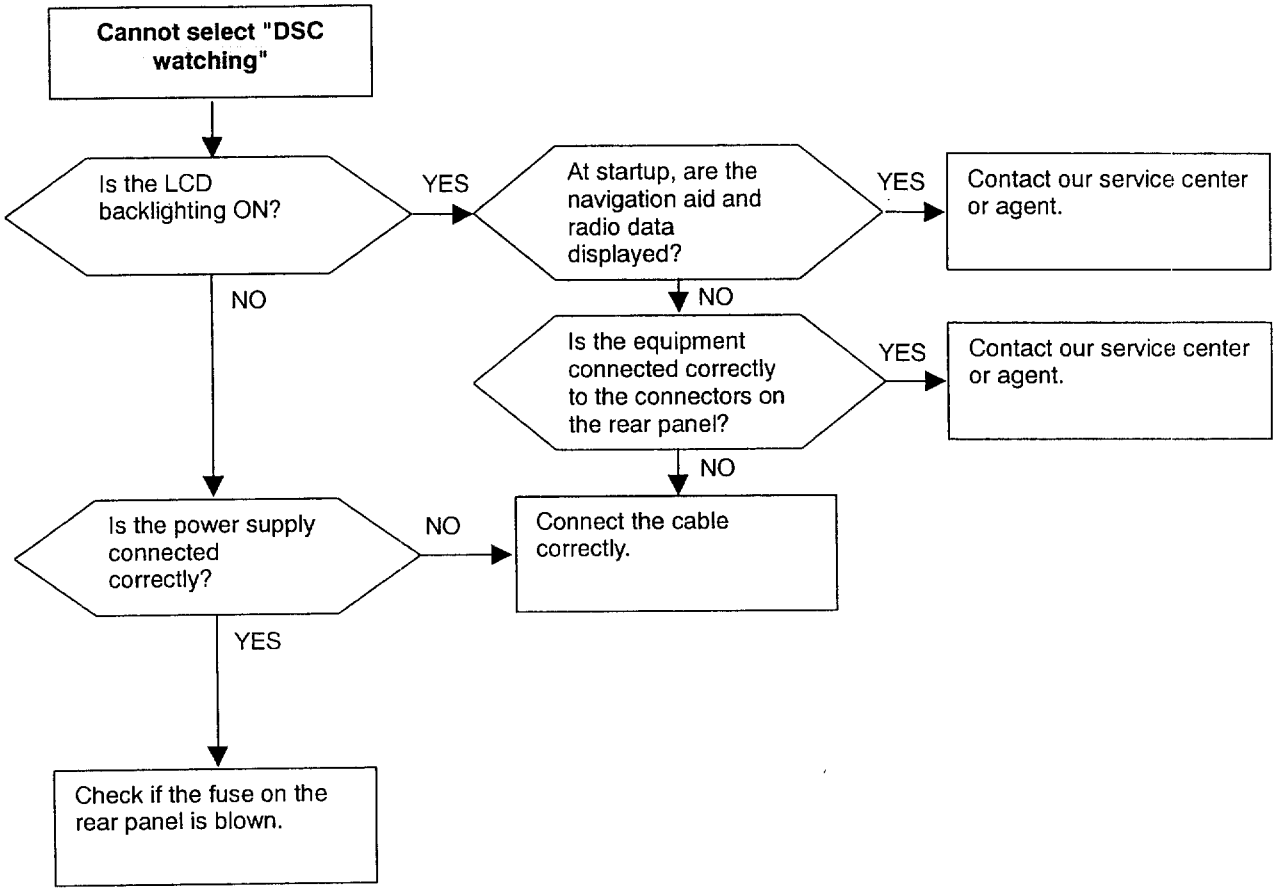
● Messages not transmitted



● Printer does not print.



● Cannot select "DSC watching"



5.2.3 Actual Communication Test Using DSC Distress and Safety Call Frequency

Refrain from testing on a frequency used for DSC distress and safety calls. However, if such a test cannot be avoided, get permission from the targeted coastal station prior to performing the test.
The message for a test is fixed, as shown below. Do not send any other messages. Because the propagation area is particularly wide when the MF/HF band is used, sending other message may be a nuisance to other ships and/or coastal stations.

【The message transmitted by a test】

FORMAT	: INDIVIDUAL	(Fixed: Individual call)
ADDRESS	: XXXXXXXXX	(Input: The destination address for the ship)
CATEGORY	: SAFETY	(Fixed: Safety)
TELECOMMAND 1	: TEST	(Fixed: Test)
TELECOMMAND 2	: NO INFORMATION	(Fixed: No information)
WORKING TX/RX FREQUENCY	: NONE/NONE	(Fixed: No specified work frequency)
END OF SEQUENCE	: ACK RQ	(Fixed: Requirement of acknowledgement)

Only an address needs to be input in the test message. Other information for formatting the test call sequence is preprogrammed into the NCT-196. The actual procedure is as follows:

(1) Confirm the address where the test message will be transmitted.

Confirm the nearest coastal station's address.

↓

(2) Confirm the Tx/Rx frequency of the coastal station.

Setting of a distress/safety frequency used internationally. Refer to Section 10 of this manual.

↓

(3) Set the radio to the frequency.

↓

On the DSC, select "MENU#1" → "11. Test call", then specify the destination address (ID) and the Tx/Rx frequency, and then press the call button.

(4) Compile and transmit the test message.

↓

(5) Receive the acknowledgement message from the coastal station and confirm its contents.

Receive the acknowledgement message.

↓

(6) End of communication test.
End of equipment installation

Explain operation to ship's operator to complete the equipment installation.

6. AFTER-SALES SERVICE

Before requesting repair

If what appears to be a fault is detected, refer to Section 5.2.2, "Troubleshooting" to check if the equipment is actually faulty before requesting repairs. If the fault persists, immediately stop operation and call our service center or agents.

- During the warranty period, we or our agencies will repair the fault without any fee.
- After the warranty expires, we will repair the fault for a fee, if repair is possible.
- Items for notification:
  - ☆ Product name, type, manufactured date, serial number, ROM version
  - ☆ Information about the fault (the more detailed, the better)
  - ☆ Your company or organization name, address, and phone number

Periodical maintenance recommended

Performance of this equipment may degrade over time because parts age, although degradation depends on how this unit has been used.
We recommend periodic professional maintenance checks in addition to daily maintenance.
Call our service center or agents for periodic professional maintenance. Note that this maintenance is subject to a service charge.

Call our office or the nearest agency for detailed information about after-sales service.

7. SPECIFICATIONS

7.1 DSC Unit

(1) System

Communications protocol:	In conformity with ITU-R regulation Nos. 493 and 541
Emission:	F1B/J2B 100 baud (MF/HF)
Code:	10 units error detection specified by IRU-R 493.
Programming frequency:	1) Six distress call frequencies pre-programmed 2) Six calling frequencies (registered by user)
Scanning:	Serial control
Memory capacity:	1) Received messages: Distress messages: 20 Other messages: 20 2) Transmitted message: 11
Clock:	Within +/- 20ppm
Data backup time:	24 hours (message content and time data)

(2) LCD

Characters per line:	40
Lines:	4
Backlighting:	LED

(3) Radio equipment interface

Modulator

Modulation speed:	100baud +/-30ppm
Modulation method:	AFSK (phase continuous FSK)
Mark frequency:	1615+/-0.5Hz
Space frequency:	1785+/-0.5Hz
Output level:	0dBm (-20 to +10dBm variable/600 ohms balanced)

Demodulator

Input frequency :	1700+/-85Hz
Input level :	-25 to +10dBm (600-ohm balanced load)

(4) Navigation aid interface

Conforms to RS-422 NMEA0183/JRC format

・NMEA0183

【Receivable data format】

RMC:	Position, UTC time, date, and speed
GLL:	Position and UTC time
ZDA:	UTC time and date
ZZU:	UTC time
ZLZ:	UTC time

• JRC format
The data on position, time, and date are received.

⚠ CAUTION

In the JRC format, setting a time difference on the navigation aid results in the local time being output, not the UTC time. Ask your service engineer to set the time difference to "0", or use the NMEA0183 format.

(5) Printer interface
Centronics

7.2 Watchkeeping Receiver

Receiving frequencies:	2187.5kHz、4207.5kHz、6312kHz、8414.5kHz、12577kHz、16804.5kHz
Scanning frequencies:	(a) Scanning within two seconds of any frequencies selected from the following: 2187.5, 4207.5, 6312, 8414.5, and 16804.5kHz (b) Scanning stops on detection of 100 baud dot pattern.
Receiving system:	Double superheterodyne
1st IF:	40.455MHz
2nd IF:	455kHs
Local oscillator frequency:	1st oscillation frequency: 42.6425 to 57.2595MHz 2nd oscillation frequency: 40MHz
Reception mode:	F1B/J2B
Sensitivity:	Symbol error rate of 1% or better at 1 microvolt input
Selectivity:	6dB bandwidth, 270 to 300Hz 30dB bandwidth, within +/-330Hz 60dB bandwidth, within +/-550Hz
Spurious response (F1B):	The symbol error rate is 1% or better when a 10 microvolt wanted signal and a 31.6mV unmodulated interference signal of 9kHz to 2GHz at least 750Hz apart from the wanted signal are input.
Blocking (F1B):	The symbol error rate is 1% or better when a 10 microvolt wanted signal and a 1 microvolt interference signal at least 500Hz apart from the wanted signal are input.
Frequency stability:	Within +/-10Hz after 1-minute warmup
Spurious emission:	4000 micro-microW or less
Antenna impedance:	50 ohms unbalanced
Function:	Self-test

7.3 Environment and Mechanical Specifications

(1) Environmental conditions

DC power supply:	13.6VDC
Consumption:	36VA max.
Operating temperature range:	-15 to +55°C
Storage temperature range:	-25 to +65°C
Relative humidity:	93% (at +40°C)
Continuous operation:	Operating continuously and correctly 24 hours a day under normal temperature and humidity

(2) Equipment Dimensions

External dimensions:	250mm (w) x 100mm (h) x 260mm (d)
Weight:	4.8kg
Installation:	
Vibration:	300 to 750cpm: Full amplitude=3.2mm 750 to 1500cpm: Full amplitude=0.8mm 1500 to 3000cpm: Full amplitude=0.2mm

8. APPENDIX

8.1 Allocation of ITU Channels

		Telephone (USB)			DSC			Morse (CW)			Telex (TLX)		
ITU Channels	4MHz	Dup	27	401~427	Emerg.	1	401	Call	10	401~410	Pair	19	401~419
		Simp	2	428~429	Other.	3	402~404	Work	31	411~441	Non	10	420~429
	6MHz	Dup	8	601~608	Emerg.	1	601	Call	10	601~610	Pair	34	601~634
		Simp	3	609~611	Other.	3	602~604	Work	31	611~641	Non	23	635~657
	8MHz	Dup	33	801~833	Emerg.	1	801	Call	10	801~810	Pair	40	801~840
		Simp	2	834~835	Other.	3	802~804	Work	59	811~869	Non	36	841~876
	12MHz	Dup	41	1201~1241	Emerg.	1	1201	Call	10	1201~1210	Pair	156	1201~12156
		Simp	5	1242~1246	Other.	3	1202~1204	Work	110	1211~12120	Non	34	12157~12190
	16MHz	Dup	56	1601~1656	Emerg.	1	1601	Call	10	1601~1610	Pair	193	1601~16193
		Simp	7	1657~1663	Other.	3	1602~1604	Work	129	1611~16139	Non	39	16194~16232
	18MHz	Dup	15	1801~1815	–	–	–	–	–	–	Pair	45	1801~1845
		Simp	7	1816~1822	Other.	3	1801~1803	–	–	–	Non	11	1846~1856
	22MHz	Dup	53	2201~2253	–	–	–	Call	10	2201~2210	Pair	135	2201~22135
		Simp	7	2254~2260	Other.	3	2201~2203	Work	75	2211~2285	Non	45	22136~22180
	25MHz	Dup	10	2501~2510	–	–	–	Call	4	2501~2504	Pair	40	2501~2540
		Simp	7	2511~2517	Other.	3	2501~2503	Work	20	2505~2524	Non	31	2541~2571
	Subtotal	283			29			519			891		
	Total	1722											

Channel Designator	Ship Tx	Ship Rx
(Telephone allocation)		
401	4065.0	4357.0
402	4068.0	4360.0
403	4071.0	4363.0
404	4074.0	4366.0
405	4077.0	4369.0
406	4080.0	4372.0
407	4083.0	4375.0
408	4086.0	4378.0
409	4089.0	4381.0
410	4092.0	4384.0
411	4095.0	4387.0
412	4098.0	4390.0
413	4101.0	4393.0
414	4104.0	4396.0
415	4107.0	4399.0
416	4110.0	4402.0
417	4113.0	4405.0
418	4116.0	4408.0
419	4119.0	4411.0
420	4122.0	4414.0
421	4125.0	4417.0
422	4128.0	4420.0
423	4131.0	4423.0
424	4134.0	4426.0
425	4137.0	4429.0
426	4140.0	4432.0
427	4143.0	4435.0
428	4146.0	
429	4149.0	
601	6200.0	6501.0
602	6203.0	6504.0
603	6206.0	6507.0
604	6209.0	6510.0
605	6212.0	6513.0
606	6215.0	6516.0
607	6218.0	6519.0
608	6221.0	6522.0
609	6224.0	
610	6227.0	
611	6230.0	
801	8195.0	8719.0
802	8198.0	8722.0
803	8201.0	8725.0
804	8204.0	8728.0
805	8207.0	8731.0
806	8210.0	8734.0
807	8213.0	8737.0
808	8216.0	8740.0
809	8219.0	8743.0
810	8222.0	8746.0
811	8225.0	8749.0
812	8228.0	8752.0
813	8231.0	8755.0
814	8234.0	8758.0
815	8237.0	8761.0
816	8240.0	8764.0
817	8243.0	8767.0
818	8246.0	8770.0
819	8249.0	8773.0

Channel Designator	Ship Tx	Ship Rx
820	8252.0	8776.0
821	8255.0	8779.0
822	8258.0	8782.0
823	8261.0	8785.0
824	8264.0	8788.0
825	8267.0	8791.0
826	8270.0	8794.0
827	8273.0	8797.0
828	8276.0	8800.0
829	8279.0	8803.0
830	8282.0	8806.0
831	8285.0	8809.0
832	8288.0	8812.0
833	*8291.0	8291.0
834	8294.0	
835	8297.0	
1201	12230.0	13077.0
1202	12233.0	13080.0
1203	12236.0	13083.0
1204	12239.0	13086.0
1205	12242.0	13089.0
1206	12245.0	13092.0
1207	12248.0	13095.0
1208	12251.0	13098.0
1209	12254.0	13101.0
1210	12257.0	13104.0
1211	12260.0	13107.0
1212	12263.0	13110.0
1213	12266.0	13113.0
1214	12269.0	13116.0
1215	12272.0	13119.0
1216	12275.0	13122.0
1217	12278.0	13125.0
1218	12281.0	13128.0
1219	12284.0	13131.0
1220	12287.0	13134.0
1221	12290.0	13137.0
1222	12293.0	13140.0
1223	12296.0	13143.0
1224	12299.0	13146.0
1225	12302.0	13149.0
1226	12305.0	13152.0
1227	12308.0	13155.0
1228	12311.0	13158.0
1229	12314.0	13161.0
1230	12317.0	13164.0
1231	12320.0	13167.0
1232	12323.0	13170.0
1233	12326.0	13173.0
1234	12329.0	13176.0
1235	12332.0	13179.0
1236	12335.0	13182.0
1237	12338.0	13185.0
1238	12341.0	13188.0
1239	12344.0	13191.0
1240	12347.0	13194.0
1241	12350.0	13197.0
1242	12353.0	
1243	12356.0	
1244	12359.0	
1245	12362.0	

Channel Designator	Ship Tx	Ship Rx
1246	12365.0	
1601	16360.0	17242.0
1602	16363.0	17245.0
1603	16366.0	17248.0
1604	16369.0	17251.0
1605	16372.0	17254.0
1606	16375.0	17257.0
1607	16378.0	17260.0
1608	16381.0	17263.0
1609	16384.0	17266.0
1610	16387.0	17269.0
1611	16390.0	17272.0
1612	16393.0	17275.0
1613	16396.0	17278.0
1614	16399.0	17281.0
1615	16402.0	17284.0
1616	16405.0	17287.0
1617	16408.0	17290.0
1618	16411.0	17293.0
1619	16414.0	17296.0
1620	16417.0	17299.0
1621	16420.0	17302.0
1622	16423.0	17305.0
1623	16426.0	17308.0
1624	16429.0	17311.0
1625	16432.0	17314.0
1626	16435.0	17317.0
1627	16438.0	17320.0
1628	16441.0	17323.0
1629	16444.0	17326.0
1630	16447.0	17329.0
1631	16450.0	17332.0
1632	16453.0	17335.0
1633	16456.0	17338.0
1634	16459.0	17341.0
1635	16462.0	17344.0
1636	16465.0	17347.0
1637	16468.0	17350.0
1638	16471.0	17353.0
1639	16474.0	17356.0
1640	16477.0	17359.0
1641	16480.0	17362.0
1642	16483.0	17365.0
1643	16486.0	17368.0
1644	16489.0	17371.0
1645	16492.0	17374.0
1646	16495.0	17377.0
1647	16498.0	17380.0
1648	16501.0	17383.0
1649	16504.0	17386.0
1650	16507.0	17389.0
1651	16510.0	17392.0
1652	16513.0	17395.0
1653	16516.0	17398.0
1654	16519.0	17401.0
1655	16522.0	17404.0
1656	16525.0	17407.0
1657	16528.0	
1658	16531.0	
1659	16534.0	
1660	16537.0	

Channel Designator	Ship Tx	Ship Rx
1661	16540.0	
1662	16543.0	
1663	16546.0	
1801	18780.0	19755.0
1802	18783.0	19758.0
1803	18786.0	19761.0
1804	18789.0	19764.0
1805	18792.0	19767.0
1806	18795.0	19770.0
1807	18798.0	19773.0
1808	18801.0	19776.0
1809	18804.0	19779.0
1810	18807.0	19782.0
1811	18810.0	19785.0
1812	18813.0	19788.0
1813	18816.0	19791.0
1814	18819.0	19794.0
1815	18822.0	19797.0
1816	18825.0	
1817	18828.0	
1818	18831.0	
1819	18834.0	
1820	18837.0	
1821	18840.0	
1822	18843.0	
2201	22000.0	22696.0
2202	22003.0	22699.0
2203	22006.0	22702.0
2204	22009.0	22705.0
2205	22012.0	22708.0
2206	22015.0	22711.0
2207	22018.0	22714.0
2208	22021.0	22717.0
2209	22024.0	22720.0
2210	22027.0	22723.0
2211	22030.0	22726.0
2212	22033.0	22729.0
2213	22036.0	22732.0
2214	22039.0	22735.0
2215	22042.0	22738.0
2216	22045.0	22741.0
2217	22048.0	22744.0
2218	22051.0	22747.0
2219	22054.0	22750.0
2220	22057.0	22753.0
2221	22060.0	22756.0
2222	22063.0	22759.0
2223	22066.0	22762.0
2224	22069.0	22765.0
2225	22072.0	22768.0
2226	22075.0	22771.0
2227	22078.0	22774.0
2228	22081.0	22777.0
2229	22084.0	22780.0
2230	22087.0	22783.0
2231	22090.0	22786.0
2232	22093.0	22789.0
2233	22096.0	22792.0
2234	22099.0	22795.0
2235	22102.0	22798.0

Channel Designator	Ship Tx	Ship Rx
(Telephone allocation)		
2236	22105.0	22801.0
2237	22108.0	22804.0
2238	22111.0	22807.0
2239	22114.0	22810.0
2240	22117.0	22813.0
2241	22120.0	22816.0
2242	22123.0	22819.0
2243	22126.0	22822.0
2244	22129.0	22825.0
2245	22132.0	22828.0
2246	22135.0	22831.0
2247	22138.0	22834.0
2248	22141.0	22837.0
2249	22144.0	22840.0
2250	22147.0	22843.0
2251	22150.0	22846.0
2252	22153.0	22849.0
2253	22156.0	22852.0
2254	22159.0	
2255	22162.0	
2256	22165.0	
2257	22168.0	
2258	22171.0	
2259	22174.0	
2260	22177.0	
2501	25070.0	26145.0
2502	25073.0	26148.0
2503	25076.0	26151.0
2504	25079.0	26154.0
2505	25082.0	26157.0
2506	25085.0	26160.0
2507	25088.0	26163.0
2508	25091.0	26166.0
2509	25094.0	26169.0
2510	25097.0	26172.0
2511	25100.0	
2512	25103.0	
2513	25106.0	
2514	25109.0	
2515	25112.0	
2516	25115.0	
2517	25118.0	
(DSC allocation)		
401	4207.5	
402	4208.0	4219.5
403	4208.5	4220.0
404	4209.0	4220.5
601	6312.0	
602	6312.5	6331.0
603	6313.0	6331.5
604	6313.5	6332.0
801	8414.5	
802	8415.0	8436.5
803	8415.5	8437.0
804	8416.0	8437.5
1201	12577.0	
1202	12577.5	12657.0
1203	12578.0	12657.5
1204	12578.5	12658.0
1601	16804.5	
1602	16805.0	16903.0
1603	16805.5	16903.5
1604	16806.0	16904.0
1801	18898.5	19703.5
1802	18899.0	19704.0
1803	18899.5	19704.5
2201	22374.5	22444.0
2202	22375.0	22444.5
2203	22375.5	22445.0
2501	25208.5	26121.0
2502	25209.0	26121.5
2503	25209.5	26122.0
(Morse allocation)		
401	4182.0	
402	4182.5	
403	4184.0	
404	4184.5	
405	4183.0	
406	4183.5	
407	4185.0	
408	4185.5	
409	4186.0	
410	4186.5	
411	4187.0	
412	4187.5	
413	4188.0	
414	4188.5	
415	4189.0	
416	4189.5	
417	4190.0	
418	4190.5	
419	4191.0	
420	4191.5	
421	4192.0	
422	4192.5	
423	4193.0	
424	4193.5	
425	4194.0	
426	4194.5	
427	4195.0	
428	4195.5	
429	4196.0	
430	4196.5	
431	4197.0	
432	4197.5	
433	4198.0	
434	4198.5	
435	4199.0	
436	4199.5	
437	4200.0	
438	4200.5	
439	4201.0	
440	4201.5	
441	4202.0	
601	6277.0	
602	6277.5	
603	6276.0	
604	6276.5	
605	6278.0	
606	6278.5	
607	6279.0	
608	6279.5	
609	6280.0	
610	6280.5	
611	6285.0	
612	6285.5	
613	6286.0	
614	6286.5	
615	6287.0	
616	6287.5	
617	6288.0	
618	6288.5	
619	6289.0	
620	6289.5	
621	6290.0	
622	6290.5	
623	6291.0	
624	6291.5	
625	6292.0	
626	6292.5	
627	6293.0	
628	6293.5	
629	6294.0	
630	6294.5	
631	6295.0	
632	6295.5	
633	6296.0	
634	6296.5	
635	6297.0	
636	6297.5	
637	6298.0	
638	6298.5	
639	6299.0	
640	6299.5	
641	6300.0	
801	8366.0	
802	8366.5	
803	8368.0	
804	8369.0	
805	8367.0	
806	8367.5	
807	8368.5	
808	8369.5	
809	8370.0	
810	8370.5	
811	8342.0	
812	8342.5	
813	8343.0	
814	8343.5	
815	8344.0	
816	8344.5	
817	8345.0	
818	8345.5	
819	8346.0	
820	8346.5	
821	8347.0	
822	8347.5	
823	8348.0	
824	8348.5	
825	8349.0	
826	8349.5	
827	8350.0	
828	8350.5	
829	8351.0	
830	8351.5	
831	8352.0	
832	8352.5	
833	8353.0	
834	8353.5	
835	8354.0	
836	8354.5	
837	8355.0	
838	8355.5	
839	8356.0	
840	8356.5	
841	8357.0	
842	8357.5	
843	8358.0	
844	8358.5	
845	8359.0	
846	8359.5	
847	8360.0	
848	8360.5	
849	8361.0	
850	8361.5	
851	8362.0	
852	8362.5	
853	8363.0	
854	8363.5	
855	8364.0	
856	8364.5	
857	8365.0	
858	8365.5	
859	8371.0	
860	8371.5	
861	8372.0	
862	8372.5	
863	8373.0	
864	8373.5	
865	8374.0	
866	8374.5	
867	8375.0	
868	8375.5	
869	8376.0	
1201	12550.0	
1202	12550.5	
1203	12552.0	
1204	12553.5	
1205	12551.0	
1206	12551.5	
1207	12552.5	
1208	12553.0	
1209	12554.0	
1210	12554.5	

Channel Designator	Ship Tx	Ship Rx
(Morse allocation)		
1211	12422.0	
1212	12422.5	
1213	12423.0	
1214	12423.5	
1215	12424.0	
1216	12424.5	
1217	12425.0	
1218	12425.5	
1219	12426.0	
1220	12426.5	
1221	12427.0	
1222	12427.5	
1223	12428.0	
1224	12428.5	
1225	12429.0	
1226	12429.5	
1227	12430.0	
1228	12430.5	
1229	12431.0	
1230	12431.5	
1231	12432.0	
1232	12432.5	
1233	12433.0	
1234	12433.5	
1235	12434.0	
1236	12434.5	
1237	12435.0	
1238	12435.5	
1239	12436.0	
1240	12436.5	
1241	12437.0	
1242	12437.5	
1243	12438.0	
1244	12438.5	
1245	12439.0	
1246	12439.5	
1247	12440.0	
1248	12440.5	
1249	12441.0	
1250	12441.5	
1251	12442.0	
1252	12442.5	
1253	12443.0	
1254	12443.5	
1255	12444.0	
1256	12444.5	
1257	12445.0	
1258	12445.5	
1259	12446.0	
1260	12446.5	
1261	12447.0	
1262	12447.5	
1263	12448.0	
1264	12448.5	
1265	12449.0	
1266	12449.5	
1267	12450.0	
1268	12450.5	
1269	12451.0	
1270	12451.5	
1271	12452.0	
1272	12452.5	
1273	12453.0	
1274	12453.5	
1275	12454.0	
1276	12454.5	
1277	12455.0	
1278	12455.5	
1279	12456.0	
1280	12456.5	
1281	12457.0	
1282	12457.5	
1283	12458.0	
1284	12458.5	
1285	12459.0	
1286	12459.5	
1287	12460.0	
1288	12460.5	
1289	12461.0	
1290	12461.5	
1291	12462.0	
1292	12462.5	
1293	12463.0	
1294	12463.5	
1295	12464.0	
1296	12464.5	
1297	12465.0	
1298	12465.5	
1299	12466.0	
12100	12466.5	
12101	12467.0	
12102	12467.5	
12103	12468.0	
12104	12468.5	
12105	12469.0	
12106	12469.5	
12107	12470.0	
12108	12470.5	
12109	12471.0	
12110	12471.5	
12111	12472.0	
12112	12472.5	
12113	12473.0	
12114	12473.5	
12115	12474.0	
12116	12474.5	
12117	12475.0	
12118	12475.5	
12119	12476.0	
12120	12476.5	
1601	16734.0	
1602	16734.5	
1603	16736.0	
1604	16738.0	
1605	16735.0	
1606	16735.5	
1607	16736.5	
1608	16737.0	
1609	16737.5	
1610	16738.5	
1611	16619.0	
1612	16619.5	
1613	16620.0	
1614	16620.5	
1615	16621.0	
1616	16621.5	
1617	16622.0	
1618	16622.5	
1619	16623.0	
1620	16623.5	
1621	16624.0	
1622	16624.5	
1623	16625.0	
1624	16625.5	
1625	16626.0	
1626	16626.5	
1627	16627.0	
1628	16627.5	
1629	16628.0	
1630	16628.5	
1631	16629.0	
1632	16629.5	
1633	16630.0	
1634	16630.5	
1635	16631.0	
1636	16631.5	
1637	16632.0	
1638	16632.5	
1639	16633.0	
1640	16633.5	
1641	16634.0	
1642	16634.5	
1643	16635.0	
1644	16635.5	
1645	16636.0	
1646	16636.5	
1647	16637.0	
1648	16637.5	
1649	16638.0	
1650	16638.5	
1651	16639.0	
1652	16639.5	
1653	16640.0	
1654	16640.5	
1655	16641.0	
1656	16641.5	
1657	16642.0	
1658	16642.5	
1659	16643.0	
1660	16643.5	
1661	16644.0	
1662	16644.5	
1663	16645.0	
1664	16645.5	
1665	16646.0	
1666	16646.5	
1667	16647.0	
1668	16647.5	
1669	16648.0	
1670	16648.5	
1671	16649.0	
1672	16649.5	
1673	16650.0	
1674	16650.5	
1675	16651.0	
1676	16651.5	
1677	16652.0	
1678	16652.5	
1679	16653.0	
1680	16653.5	
1681	16654.0	
1682	16654.5	
1683	16655.0	
1684	16655.5	
1685	16656.0	
1686	16656.5	
1687	16657.0	
1688	16657.5	
1689	16658.0	
1690	16658.5	
1691	16659.0	
1692	16659.5	
1693	16660.0	
1694	16660.5	
1695	16661.0	
1696	16661.5	
1697	16662.0	
1698	16662.5	
1699	16663.0	
16100	16663.5	
16101	16664.0	
16102	16664.5	
16103	16665.0	
16104	16665.5	
16105	16666.0	
16106	16666.5	
16107	16667.0	
16108	16667.5	
16109	16668.0	
16110	16668.5	
16111	16669.0	
16112	16669.5	
16113	16670.0	
16114	16670.5	
16115	16671.0	
16116	16671.5	
16117	16672.0	
16118	16672.5	
16119	16673.0	
16120	16673.5	
16121	16674.0	
16122	16674.5	
16123	16675.0	
16124	16675.5	
16125	16676.0	
16126	16676.5	
16127	16677.0	
16128	16677.5	
16129	16678.0	
16130	16678.5	
16131	16679.0	
16132	16679.5	
16133	16680.0	
16134	16680.5	
16135	16681.0	
16136	16681.5	

Channel Designator	Ship Tx	Ship Rx
(Morse allocation)		
16137		16682.0
16138		16682.5
16139		16683.0
2201		22279.5
2202		22280.0
2203		22280.5
2204		22281.0
2205		22281.5
2206		22282.0
2207		22282.5
2208		22283.0
2209		22283.5
2210		22284.0
2211		22242.0
2212		22242.5
2213		22243.0
2214		22243.5
2215		22244.0
2216		22244.5
2217		22245.0
2218		22245.5
2219		22246.0
2220		22246.5
2221		22247.0
2222		22247.5
2223		22248.0
2224		22248.5
2225		22249.0
2226		22249.5
2227		22250.0
2228		22250.5
2229		22251.0
2230		22251.5
2231		22252.0
2232		22252.5
2233		22253.0
2234		22253.5
2235		22254.0
2236		22254.5
2237		22255.0
2238		22255.5
2239		22256.0
2240		22256.5
2241		22257.0
2242		22257.5
2243		22258.0
2244		22258.5
2245		22259.0
2246		22259.5
2247		22260.0
2248		22260.5
2249		22261.0
2250		22261.5
2251		22262.0
2252		22262.5
2253		22263.0
2254		22263.5
2255		22264.0
2256		22264.5
2257		22265.0
2258		22265.5
2259		22266.0
2260		22266.5
2261		22267.0
2262		22267.5
2263		22268.0
2264		22268.5
2265		22269.0
2266		22269.5
2267		22270.0
2268		22270.5
2269		22271.0
2270		22271.5
2271		22272.0
2272		22272.5
2273		22273.0
2274		22273.5
2275		22274.0
2276		22274.5
2277		22275.0
2278		22275.5
2279		22276.0
2280		22276.5
2281		22277.0
2282		22277.5
2283		22278.0
2284		22278.5
2285		22279.0
2501		25171.5
2502		25172.0
2503		25171.5
2504		25172.5
2505		25161.5
2506		25162.0
2507		25162.5
2508		25163.0
2509		25163.5
2510		25164.0
2511		25164.5
2512		25165.0
2513		25165.5
2514		25166.0
2515		25166.5
2516		25167.0
2517		25167.5
2518		25168.0
2519		25168.5
2520		25169.0
2521		25169.5
2522		25170.0
2523		25170.5
2524		25171.0
(Telex allocation)		
401	4172.5	4210.5
402	4173.0	4211.0
403	4173.5	4211.5
404	4174.0	4212.0
405	4174.5	4212.5
406	4175.0	4213.0
407	4175.5	4213.5
408	4176.0	4214.0
409	4176.5	4214.5
410	4177.0	4215.0
411	*4177.5	4177.5
412	4178.0	4215.5
413	4178.5	4216.0
414	4179.0	4216.5
415	4179.5	4217.0
416	4180.0	4217.5
417	4180.5	4218.0
418	4181.0	4218.5
419	4181.5	4219.0
420	4202.5	
421	4203.0	
422	4203.5	
423	4204.0	
424	4204.5	
425	4205.0	
426	4205.5	
427	4206.0	
428	4206.5	
429	4207.0	
601	6263.0	6314.5
602	6263.5	6315.0
603	6264.0	6315.5
604	6264.5	6316.0
605	6265.0	6316.5
606	6265.5	6317.0
607	6266.0	6317.5
608	6266.5	6318.0
609	6267.0	6318.5
610	6267.5	6319.0
611	*6268.0	6268.0
612	6268.5	6319.5
613	6269.0	6320.0
614	6269.5	6320.5
615	6270.0	6321.0
616	6270.5	6321.5
617	6271.0	6322.0
618	6271.5	6322.5
619	6272.0	6323.0
620	6272.5	6323.5
621	6273.0	6324.0
622	6273.5	6324.5
623	6274.0	6325.0
624	6274.5	6325.5
625	6275.0	6326.0
626	6275.5	6326.5
627	6281.0	6327.0
628	6281.5	6327.5
629	6282.0	6328.0
630	6282.5	6328.5
631	6283.0	6329.0
632	6283.5	6329.5
633	6284.0	6330.0
634	6284.5	6330.5
635	6300.5	
636	6301.0	
637	6301.5	
638	6302.0	
639	6302.5	
640	6303.0	
641	6303.5	
642	6304.0	
643	6304.5	
644	6305.0	
645	6305.5	
646	6306.0	
647	6306.5	
648	6307.0	
649	6307.5	
650	6308.0	
651	6308.5	
652	6309.0	
653	6309.5	
654	6310.0	
655	6310.5	
656	6311.0	
657	6311.5	
801	*8376.5	8376.5
802	8377.0	8417.0
803	8377.5	8417.5
804	8378.0	8418.0
805	8378.5	8418.5
806	8379.0	8419.0
807	8379.5	8419.5
808	8380.0	8420.0
809	8380.5	8420.5
810	8381.0	8421.0
811	8381.5	8421.5
812	8382.0	8422.0
813	8382.5	8422.5
814	8383.0	8423.0
815	8383.5	8423.5
816	8384.0	8424.0
817	8384.5	8424.5
818	8385.0	8425.0
819	8385.5	8425.5
820	8386.0	8426.0
821	8386.5	8426.5
822	8387.0	8427.0
823	8387.5	8427.5
824	8388.0	8428.0
825	8388.5	8428.5
826	8389.0	8429.0
827	8389.5	8429.5
828	8390.0	8430.0
829	8390.5	8430.5
830	8391.0	8431.0
831	8391.5	8431.5
832	8392.0	8432.0
833	8392.5	8432.5
834	8393.0	8433.0
835	8393.5	8433.5
836	8394.0	8434.0
837	8394.5	8434.5
838	8395.0	8435.0
839	8395.5	8435.5
840	8396.0	8436.0
841	8396.5	
842	8397.0	
843	8397.5	

Channel Designator	Ship Tx	Ship Rx
(Telex allocation)		
844	8398.0	
845	8398.5	
846	8399.0	
847	8399.5	
848	8400.0	
849	8400.5	
850	8401.0	
851	8401.5	
852	8402.0	
853	8402.5	
854	8403.0	
855	8403.5	
856	8404.0	
857	8404.5	
858	8405.0	
859	8405.5	
860	8406.0	
861	8406.5	
862	8407.0	
863	8407.5	
864	8408.0	
865	8408.5	
866	8409.0	
867	8409.5	
868	8410.0	
869	8410.5	
870	8411.0	
871	8411.5	
872	8412.0	
873	8412.5	
874	8413.0	
875	8413.5	
876	8414.0	
1201	12477.0	12579.5
1202	12477.5	12580.0
1203	12478.0	12580.5
1204	12478.5	12581.0
1205	12479.0	12581.5
1206	12479.5	12582.0
1207	12480.0	12582.5
1208	12480.5	12583.0
1209	12481.0	12583.5
1210	12481.5	12584.0
1211	12482.0	12584.5
1212	12482.5	12585.0
1213	12483.0	12585.5
1214	12483.5	12586.0
1215	12484.0	12586.5
1216	12484.5	12587.0
1217	12485.0	12587.5
1218	12485.5	12588.0
1219	12486.0	12588.5
1220	12486.5	12589.0
1221	12487.0	12589.5
1222	12487.5	12590.0
1223	12488.0	12590.5
1224	12488.5	12591.0
1225	12489.0	12591.5
1226	12489.5	12592.0
1227	12490.0	12592.5

Channel Designator	Ship Tx	Ship Rx
1228	12490.5	12593.0
1229	12491.0	12593.5
1230	12491.5	12594.0
1231	12492.0	12594.5
1232	12492.5	12595.0
1233	12493.0	12595.5
1234	12493.5	12596.0
1235	12494.0	12596.5
1236	12494.5	12597.0
1237	12495.0	12597.5
1238	12495.5	12598.0
1239	12496.0	12598.5
1240	12496.5	12599.0
1241	12497.0	12599.5
1242	12497.5	12600.0
1243	12498.0	12600.5
1244	12498.5	12601.0
1245	12499.0	12601.5
1246	12499.5	12602.0
1247	12500.0	12602.5
1248	12500.5	12603.0
1249	12501.0	12603.5
1250	12501.5	12604.0
1251	12502.0	12604.5
1252	12502.5	12605.0
1253	12503.0	12605.5
1254	12503.5	12606.0
1255	12504.0	12606.5
1256	12504.5	12607.0
1257	12505.0	12607.5
1258	12505.5	12608.0
1259	12506.0	12608.5
1260	12506.5	12609.0
1261	12507.0	12609.5
1262	12507.5	12610.0
1263	12508.0	12610.5
1264	12508.5	12611.0
1265	12509.0	12611.5
1266	12509.5	12612.0
1267	12510.0	12612.5
1268	12510.5	12613.0
1269	12511.0	12613.5
1270	12511.5	12614.0
1271	12512.0	12614.5
1272	12512.5	12615.0
1273	12513.0	12615.5
1274	12513.5	12616.0
1275	12514.0	12616.5
1276	12514.5	12617.0
1277	12515.0	12617.5
1278	12515.5	12618.0
1279	12516.0	12618.5
1280	12516.5	12619.0
1281	12517.0	12619.5
1282	12517.5	12620.0
1283	12518.0	12620.5
1284	12518.5	12621.0
1285	12519.0	12621.5
1286	12519.5	12622.0
1287	*12520.0	12520.0
1288	12520.5	12622.5
1289	12521.0	12623.0

Channel Designator	Ship Tx	Ship Rx
1290	12521.5	12623.5
1291	12522.0	12624.0
1292	12522.5	12624.5
1293	12523.0	12625.0
1294	12523.5	12625.5
1295	12524.0	12626.0
1296	12524.5	12626.5
1297	12525.0	12627.0
1298	12525.5	12627.5
1299	12526.0	12628.0
12100	12526.5	12628.5
12101	12527.0	12629.0
12102	12527.5	12629.5
12103	12528.0	12630.0
12104	12528.5	12630.5
12105	12529.0	12631.0
12106	12529.5	12631.5
12107	12530.0	12632.0
12108	12530.5	12632.5
12109	12531.0	12633.0
12110	12531.5	12633.5
12111	12532.0	12634.0
12112	12532.5	12634.5
12113	12533.0	12635.0
12114	12533.5	12635.5
12115	12534.0	12636.0
12116	12534.5	12636.5
12117	12535.0	12637.0
12118	12535.5	12637.5
12119	12536.0	12638.0
12120	12536.5	12638.5
12121	12537.0	12639.0
12122	12537.5	12639.5
12123	12538.0	12640.0
12124	12538.5	12640.5
12125	12539.0	12641.0
12126	12539.5	12641.5
12127	12540.0	12642.0
12128	12540.5	12642.5
12129	12541.0	12643.0
12130	12541.5	12643.5
12131	12542.0	12644.0
12132	12542.5	12644.5
12133	12543.0	12645.0
12134	12543.5	12645.5
12135	12544.0	12646.0
12136	12544.5	12646.5
12137	12545.0	12647.0
12138	12545.5	12647.5
12139	12546.0	12648.0
12140	12546.5	12648.5
12141	12547.0	12649.0
12142	12547.5	12649.5
12143	12548.0	12650.0
12144	12548.5	12650.5
12145	12549.0	12651.0
12146	12549.5	12651.5
12147	12555.0	12652.0
12148	12555.5	12652.5
12149	12556.0	12653.0
12150	12556.5	12653.5
12151	12557.0	12654.0

Channel Designator	Ship Tx	Ship Rx
12152	12557.5	12654.5
12153	12558.0	12655.0
12154	12558.5	12655.5
12155	12559.0	12656.0
12156	12559.5	12656.5
12157	12560.0	
12158	12560.5	
12159	12561.0	
12160	12561.5	
12161	12562.0	
12162	12562.5	
12163	12563.0	
12164	12563.5	
12165	12564.0	
12166	12564.5	
12167	12565.0	
12168	12565.5	
12169	12566.0	
12170	12566.5	
12171	12567.0	
12172	12567.5	
12173	12568.0	
12174	12568.5	
12175	12569.0	
12176	12569.5	
12177	12570.0	
12178	12570.5	
12179	12571.0	
12180	12571.5	
12181	12572.0	
12182	12572.5	
12183	12573.0	
12184	12573.5	
12185	12574.0	
12186	12574.5	
12187	12575.0	
12188	12575.5	
12189	12576.0	
12190	12576.5	
1601	16683.5	16807.0
1602	16684.0	16807.5
1603	16684.5	16808.0
1604	16685.0	16808.5
1605	16685.5	16809.0
1606	16686.0	16809.5
1607	16686.5	16810.0
1608	16687.0	16810.5
1609	16687.5	16811.0
1610	16688.0	16811.5
1611	16688.5	16812.0
1612	16689.0	16812.5
1613	16689.5	16813.0
1614	16690.0	16813.5
1615	16690.5	16814.0
1616	16691.0	16814.5
1617	16691.5	16815.0
1618	16692.0	16815.5
1619	16692.5	16816.0
1620	16693.0	16816.5
1621	16693.5	16817.0
1622	16694.0	16817.5

Channel Designator	Ship Tx	Ship Rx
(Telex allocation)		
1623	16694.5	16818.0
1624	*16695.0	16695.0
1625	16695.5	16818.5
1626	16696.0	16819.0
1627	16696.5	16819.5
1628	16697.0	16820.0
1629	16697.5	16820.5
1630	16698.0	16821.0
1631	16698.5	16821.5
1632	16699.0	16822.0
1633	16699.5	16822.5
1634	16700.0	16823.0
1635	16700.5	16823.5
1636	16701.0	16824.0
1637	16701.5	16824.5
1638	16702.0	16825.0
1639	16702.5	16825.5
1640	16703.0	16826.0
1641	16703.5	16826.5
1642	16704.0	16827.0
1643	16704.5	16827.5
1644	16705.0	16828.0
1645	16705.5	16828.5
1646	16706.0	16829.0
1647	16706.5	16829.5
1648	16707.0	16830.0
1649	16707.5	16830.5
1650	16708.0	16831.0
1651	16708.5	16831.5
1652	16709.0	16832.0
1653	16709.5	16832.5
1654	16710.0	16833.0
1655	16710.5	16833.5
1656	16711.0	16834.0
1657	16711.5	16834.5
1658	16712.0	16835.0
1659	16712.5	16835.5
1660	16713.0	16836.0
1661	16713.5	16836.5
1662	16714.0	16837.0
1663	16714.5	16837.5
1664	16715.0	16838.0
1665	16715.5	16838.5
1666	16716.0	16839.0
1667	16716.5	16839.5
1668	16717.0	16840.0
1669	16717.5	16840.5
1670	16718.0	16841.0
1671	16718.5	16841.5
1672	16719.0	16842.0
1673	16719.5	16842.5
1674	16720.0	16843.0
1675	16720.5	16843.5
1676	16721.0	16844.0
1677	16721.5	16844.5
1678	16722.0	16845.0
1679	16722.5	16845.5
1680	16723.0	16846.0
1681	16723.5	16846.5
1682	16724.0	16847.0
1683	16724.5	16847.5
1684	16725.0	16848.0
1685	16725.5	16848.5
1686	16726.0	16849.0
1687	16726.5	16849.5
1688	16727.0	16850.0
1689	16727.5	16850.5
1690	16728.0	16851.0
1691	16728.5	16851.5
1692	16729.0	16852.0
1693	16729.5	16852.5
1694	16730.0	16853.0
1695	16730.5	16853.5
1696	16731.0	16854.0
1697	16731.5	16854.5
1698	16732.0	16855.0
1699	16732.5	16855.5
16100	16733.0	16856.0
16101	16733.5	16856.5
16102	16739.0	16857.0
16103	16739.5	16857.5
16104	16740.0	16858.0
16105	16740.5	16858.5
16106	16741.0	16859.0
16107	16741.5	16859.5
16108	16742.0	16860.0
16109	16742.5	16860.5
16110	16743.0	16861.0
16111	16743.5	16861.5
16112	16744.0	16862.0
16113	16744.5	16862.5
16114	16745.0	16863.0
16115	16745.5	16863.5
16116	16746.0	16864.0
16117	16746.5	16864.5
16118	16747.0	16865.0
16119	16747.5	16865.5
16120	16748.0	16866.0
16121	16748.5	16866.5
16122	16749.0	16867.0
16123	16749.5	16867.5
16124	16750.0	16868.0
16125	16750.5	16868.5
16126	16751.0	16869.0
16127	16751.5	16869.5
16128	16752.0	16870.0
16129	16752.5	16870.5
16130	16753.0	16871.0
16131	16753.5	16871.5
16132	16754.0	16872.0
16133	16754.5	16872.5
16134	16755.0	16873.0
16135	16755.5	16873.5
16136	16756.0	16874.0
16137	16756.5	16874.5
16138	16757.0	16875.0
16139	16757.5	16875.5
16140	16758.0	16876.0
16141	16758.5	16876.5
16142	16759.0	16877.0
16143	16759.5	16877.5
16144	16760.0	16878.0
16145	16760.5	16878.5
16146	16761.0	16879.0
16147	16761.5	16879.5
16148	16762.0	16880.0
16149	16762.5	16880.5
16150	16763.0	16881.0
16151	16763.5	16881.5
16152	16764.0	16882.0
16153	16764.5	16882.5
16154	16765.0	16883.0
16155	16765.5	16883.5
16156	16766.0	16884.0
16157	16766.5	16884.5
16158	16767.0	16885.0
16159	16767.5	16885.5
16160	16768.0	16886.0
16161	16768.5	16886.5
16162	16769.0	16887.0
16163	16769.5	16887.5
16164	16770.0	16888.0
16165	16770.5	16888.5
16166	16771.0	16889.0
16167	16771.5	16889.5
16168	16772.0	16890.0
16169	16772.5	16890.5
16170	16773.0	16891.0
16171	16773.5	16891.5
16172	16774.0	16892.0
16173	16774.5	16892.5
16174	16775.0	16893.0
16175	16775.5	16893.5
16176	16776.0	16894.0
16177	16776.5	16894.5
16178	16777.0	16895.0
16179	16777.5	16895.5
16180	16778.0	16896.0
16181	16778.5	16896.5
16182	16779.0	16897.0
16183	16779.5	16897.5
16184	16780.0	16898.0
16185	16780.5	16898.5
16186	16781.0	16899.0
16187	16781.5	16899.5
16188	16782.0	16900.0
16189	16782.5	16900.5
16190	16783.0	16901.0
16191	16783.5	16901.5
16192	16784.0	16902.0
16193	16784.5	16902.5
16194	16785.0	
16195	16785.5	
16196	16786.0	
16197	16786.5	
16198	16787.0	
16199	16787.5	
16200	16788.0	
16201	16788.5	
16202	16789.0	
16203	16789.5	
16204	16790.0	
16205	16790.5	
16206	16791.0	
16207	16791.5	
16208	16792.0	
16209	16792.5	
16210	16793.0	
16211	16793.5	
16212	16794.0	
16213	16794.5	
16214	16795.0	
16215	16795.5	
16216	16796.0	
16217	16796.5	
16218	16797.0	
16219	16797.5	
16220	16798.0	
16221	16798.5	
16222	16799.0	
16223	16799.5	
16224	16800.0	
16225	16800.5	
16226	16801.0	
16227	16801.5	
16228	16802.0	
16229	16802.5	
16230	16803.0	
16231	16803.5	
16232	16804.0	
1801	18870.5	19681.0
1802	18871.0	19681.5
1803	18871.5	19682.0
1804	18872.0	19682.5
1805	18872.5	19683.0
1806	18873.0	19683.5
1807	18873.5	19684.0
1808	18874.0	19684.5
1809	18874.5	19685.0
1810	18875.0	19685.5
1811	18875.5	19686.0
1812	18876.0	19686.5
1813	18876.5	19687.0
1814	18877.0	19687.5
1815	18877.5	19688.0
1816	18878.0	19688.5
1817	18878.5	19689.0
1818	18879.0	19689.5
1819	18879.5	19690.0
1820	18880.0	19690.5
1821	18880.5	19691.0
1822	18881.0	19691.5
1823	18881.5	19692.0
1824	18882.0	19692.5
1825	18882.5	19693.0
1826	18883.0	19693.5
1827	18883.5	19694.0
1828	18884.0	19694.5
1829	18884.5	19695.0
1830	18885.0	19695.5
1831	18885.5	19696.0
1832	18886.0	19696.5
1833	18886.5	19697.0
1834	18887.0	19697.5
1835	18887.5	19698.0
1836	18888.0	19698.5

Channel Designator	Ship Tx	Ship Rx
(Telex allocation)		
1837	18888.5	19699.0
1838	18889.0	19699.5
1839	18889.5	19700.0
1840	18890.0	19700.5
1841	18890.5	19701.0
1842	18891.0	19701.5
1843	18891.5	19702.0
1844	18892.0	19702.5
1845	18892.5	19703.0
1846	18893.0	
1847	18893.5	
1848	18894.0	
1849	18894.5	
1850	18895.0	
1851	18895.5	
1852	18896.0	
1853	18896.5	
1854	18897.0	
1855	18897.5	
1856	18898.0	
2201	22284.5	22376.5
2202	22285.0	22377.0
2203	22285.5	22377.5
2204	22286.0	22378.0
2205	22286.5	22378.5
2206	22287.0	22379.0
2207	22287.5	22379.5
2208	22288.0	22380.0
2209	22288.5	22380.5
2210	22289.0	22381.0
2211	22289.5	22381.5
2212	22290.0	22382.0
2213	22290.5	22382.5
2214	22291.0	22383.0
2215	22291.5	22383.5
2216	22292.0	22384.0
2217	22292.5	22384.5
2218	22293.0	22385.0
2219	22293.5	22385.5
2220	22294.0	22386.0
2221	22294.5	22386.5
2222	22295.0	22387.0
2223	22295.5	23387.5
2224	22296.0	22388.0
2225	22296.5	22388.5
2226	22297.0	22389.0
2227	22297.5	22389.5
2228	22298.0	22390.0
2229	22298.5	22390.5
2230	22299.0	22391.0
2231	22299.5	22391.5
2232	22300.0	22392.0
2233	22300.5	22392.5
2234	22301.0	22393.0
2235	22301.5	22393.5
2236	22302.0	22394.0
2237	22302.5	22394.5
2238	22303.0	22395.0
2239	22303.5	22395.5
2240	22304.0	22396.0
2241	22304.5	22396.5
2242	22305.0	22397.0
2243	22305.5	22397.5
2244	22306.0	22398.0
2245	22306.5	22398.5
2246	22307.0	22399.0
2247	22307.5	22399.5
2248	22308.0	22400.0
2249	22308.5	22400.5
2250	22309.0	22401.0
2251	22309.5	22401.5
2252	22310.0	22402.0
2253	22310.5	22402.5
2254	22311.0	22403.0
2255	22311.5	22403.5
2256	22312.0	22404.0
2257	22312.5	22404.5
2258	22313.0	22405.0
2259	22313.5	22405.5
2260	22314.0	22406.0
2261	22314.5	22406.5
2262	22315.0	22407.0
2263	22315.5	22407.5
2264	22316.0	22408.0
2265	22316.5	22408.5
2266	22317.0	22409.0
2267	22317.5	22409.5
2268	22318.0	22410.0
2269	22318.5	22410.5
2270	22319.0	22411.0
2271	22319.5	22411.5
2272	22320.0	22412.0
2273	22320.5	22412.5
2274	22321.0	22413.0
2275	22321.5	22413.5
2276	22322.0	22414.0
2277	22322.5	22414.5
2278	22323.0	22415.0
2279	22323.5	22415.5
2280	22324.0	22416.0
2281	22324.5	22416.5
2282	22325.0	22417.0
2283	22325.5	22417.5
2284	22326.0	22418.0
2285	22326.5	22418.5
2286	22327.0	22419.0
2287	22327.5	22419.5
2288	22328.0	22420.0
2289	22328.5	22420.5
2290	22329.0	22421.0
2291	22329.5	22421.5
2292	22330.0	22422.0
2293	22330.5	22422.5
2294	22331.0	22423.0
2295	22331.5	22423.5
2296	22332.0	22424.0
2297	22332.5	22424.5
2298	22333.0	22425.0
2299	22333.5	22425.5
22100	22334.0	22426.0
22101	22334.5	22426.5
22102	22335.0	22427.0
22103	22335.5	22427.5
22104	22336.0	22428.0
22105	22336.5	22428.5
22106	22337.0	22429.0
22107	22337.5	22429.5
22108	22338.0	22430.0
22109	22338.5	22430.5
22110	22339.0	22431.0
22111	22339.5	22431.5
22112	22340.0	22432.0
22113	22340.5	22432.5
22114	22341.0	22433.0
22115	22341.5	22433.5
22116	22342.0	22434.0
22117	22342.5	22434.5
22118	22343.0	22435.0
22119	22343.5	22435.5
22120	22344.0	22436.0
22121	22344.5	22436.5
22122	22345.0	22437.0
22123	22345.5	22437.5
22124	22346.0	22438.0
22125	22346.5	22438.5
22126	22347.0	22439.0
22127	22347.5	22439.5
22128	22348.0	22440.0
22129	22348.5	22440.5
22130	22349.0	22441.0
22131	22349.5	22441.5
22132	22350.0	22442.0
22133	22350.5	22442.5
22134	22351.0	22443.0
22135	22351.5	22443.5
22136	22352.0	
22137	22352.5	
22138	22353.0	
22139	22353.5	
22140	22354.0	
22141	22354.5	
22142	22355.0	
22143	22355.5	
22144	22356.0	
22145	22356.5	
22146	22357.0	
22147	22357.5	
22148	22358.0	
22149	22358.5	
22150	22359.0	
22151	22359.5	
22152	22360.0	
22153	22360.5	
22154	22361.0	
22155	22361.5	
22156	22362.0	
22157	22362.5	
22158	22363.0	
22159	22363.5	
22160	22364.0	
22161	22364.5	
22162	22365.0	
22163	22365.5	
22164	22366.0	
22165	22366.5	
22166	22367.0	
22167	22367.5	
22168	22368.0	
22169	22368.5	
22170	22369.0	
22171	22369.5	
22172	22370.0	
22173	22370.5	
22174	22371.0	
22175	22371.5	
22176	22372.0	
22177	22372.5	
22178	22373.0	
22179	22373.5	
22180	22374.0	
2501	25173.0	26101.0
2502	25173.5	26101.5
2503	25174.0	26102.0
2504	25174.5	26102.5
2505	25175.0	26103.0
2506	25175.5	26103.5
2507	25176.0	26104.0
2508	25176.5	26104.5
2509	25177.0	26105.0
2510	25177.5	26105.5
2511	25178.0	26106.0
2512	25178.5	26106.5
2513	25179.0	26107.0
2514	25179.5	26107.5
2515	25180.0	26108.0
2516	25180.5	26108.5
2517	25181.0	26109.0
2518	25181.5	26109.5
2519	25182.0	26110.0
2520	25182.5	26110.5
2521	25183.0	26111.0
2522	25183.5	26111.5
2523	25184.0	26112.0
2524	25184.5	26112.5
2525	25185.0	26113.0
2526	25185.5	26113.5
2527	25186.0	26114.0
2528	25186.5	26114.5
2529	25187.0	26115.0
2530	25187.5	26115.5
2531	25188.0	26116.0
2532	25188.5	26116.5
2533	25189.0	26117.0
2534	25189.5	26117.5
2535	25190.0	26118.0
2536	25190.5	26118.5
2537	25191.0	26119.0
2538	25191.5	26119.5
2539	25192.0	26120.0
2540	25192.5	26120.5
2541	25193.0	
2542	25193.5	
2543	25194.0	
2544	25194.5	
2545	25195.0	

Channel Designator	Ship Tx	Ship Rx
2546	25195.5	
2547	25196.0	
2548	25196.5	
2549	25197.0	
2550	25197.5	
2551	25198.0	
2552	25198.5	
2553	25199.0	
2554	25199.5	
2555	25200.0	
2556	25200.5	
2557	25201.0	
2558	25201.5	
2559	25202.0	
2560	25202.5	
2561	25203.0	
2562	25203.5	
2563	25204.0	
2564	25204.5	
2565	25205.0	
2566	25205.5	
2567	25206.0	
2568	25206.5	
2569	25207.0	
2570	25207.5	
2571	25208.0	

8.2 List of DSC Frequencies

The frequencies listed below are used only for digital selective calls, and are internationally regulated. In addition, the respective countries have decided frequencies for their own use.

Coastal stations in some countries have set up domestic frequencies aside from the internationally regulated frequencies. It is therefore strongly recommended to make inquiries to the relevant coastal stations prior to starting DSC operation.

8.2.1 International Frequencies for Distress and Safety Calls

The following internationally-regulated frequencies are used for distress and safety calls.

(Simplex)

2187.5 kHz
4207.5 kHz
6312.0 kHz
8414.5 kHz
12577.0 kHz
16804.5 kHz

8.2.2 International Frequencies for Non-Distress/Non-Safety Calls

The following internationally-regulated frequencies are used by ship stations and coastal stations for DSC calls other than distress and safety calls.

(Duplex)

Ship station transmission frequency	Coastal station transmission frequency
4208.0 kHz	4219.5 kHz
6312.5 kHz	6331.0 kHz
8415.0 kHz	8436.5 kHz
12577.5 kHz	12657.0 kHz
16805.0 kHz	16903.5 kHz
18898.5 kHz	19703.5 kHz
22374.5 kHz	22444.0 kHz
25208.5 kHz	26121.0 kHz

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