

# CHAPTER 3

## RADIO NAVIGATIONAL WARNINGS

### 300A. General

Radio navigational warning broadcasts are designed to provide the mariner with up-to-date marine information vital to safe navigation. These warnings are described as follows:

- Worldwide - Important worldwide marine information.
- Long Range - Important worldwide information issued by geographic area.
- Coastal and Local - Short-range marine information, including items of interest to small craft.

### 300B. Coastal and Local Warnings

These broadcasts are generally restricted to ports, harbors, and coastal waters, and involve items of local interest. Usually, local or short-range warnings are broadcast from a single coastal station, frequently by voice as well as radiotelegraph, to assist small craft operators in the area. The information is often quite detailed. Foreign area broadcasts are frequently in English as well as the native language. In the United States, short-range radio navigational warnings are broadcast by the U.S. Coast Guard Districts via NAVTEX and subordinate coastal radio stations.

### 300C. Long Range Warnings

These warnings are intended primarily to assist mariners on the high seas by promulgating navigational safety information concerning port and harbor approaches, coastlines, and major ocean areas. Long-range radio navigational warnings are usually broadcast by means of radiotelegraphy, and in many instances by radio-teletypewriter.

The NAVAREA system of 16 navigational warning areas has been developed by a joint committee of the International Hydrographic Organization and the International Maritime Organization. The NAVAREA system provides worldwide coverage in English using standard format and procedures.

Each NAVAREA is under the jurisdiction of an Area Coordinator. The Area Coordinator assimilates information from the coastal countries within the NAVAREA. Accountability is maintained through annual serialization and notification of cancellation. National Coordinators are charged with collecting warning information from sources within their national boundaries. National Coordinators often broadcast local or coastal warnings.

The United States participates as Area Coordinator for both NAVAREA IV and NAVAREA XII. NAVAREA IV includes the Western North Atlantic. NAVAREA XII includes the Eastern North Pacific.

The National Imagery and Mapping Agency (NIMA) acts as the NAVAREA IV and XII Coordinator and the United States Coast Guard (USCG) acts as the U.S. National Coordinator.

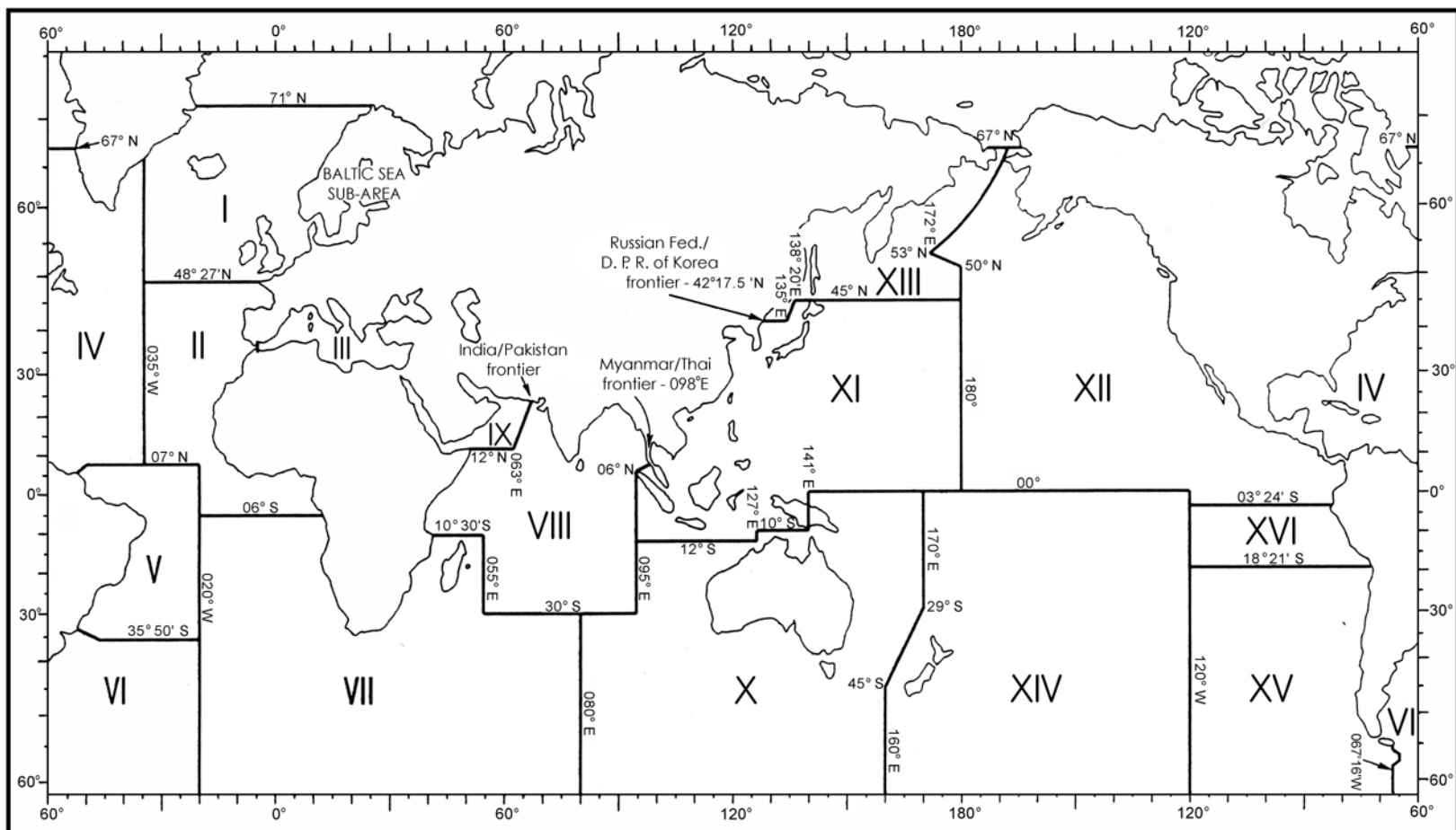
### 300D. Worldwide Warnings

The United States also maintains worldwide coverage using the HYDROLANT/HYDROPAC Navigational Warning System outside of NAVAREAs IV and XII. HYDROLANTs cover the eastern North Atlantic, South Atlantic, North Sea, Baltic Sea, English Channel, Mediterranean Sea, and contiguous areas. HYDROPACs include the western North Pacific, South Pacific, South China Sea, Indian Ocean, Red Sea, Persian Gulf, and contiguous areas. The combination of HYDROLANTs, HYDROPACs, NAVAREA IVs and NAVAREA XIIs provides worldwide notification of the more important marine incidents and navigational changes.

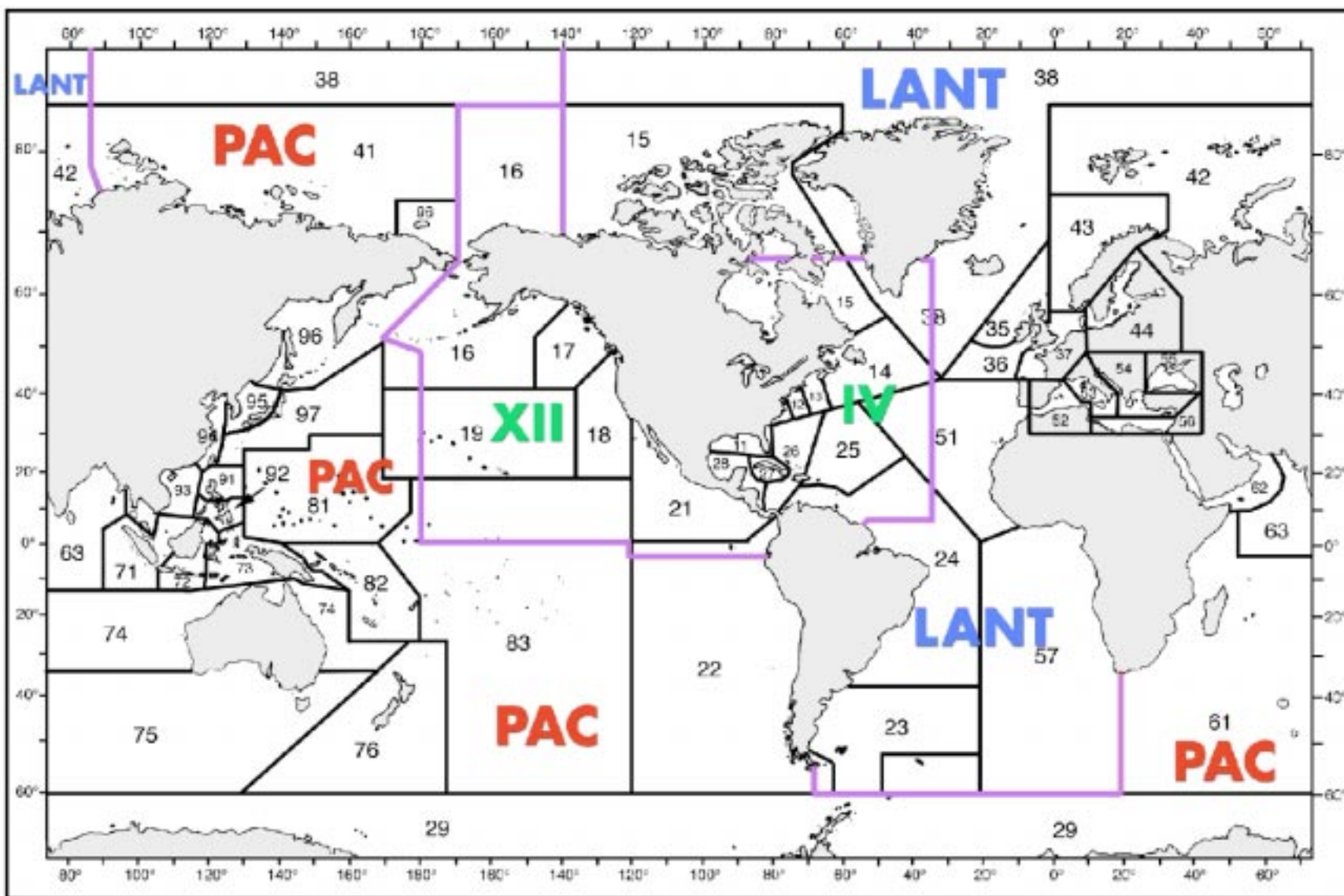
### 300E. Worldwide Warnings Message Content

NAVAREA IV, NAVAREA XII, HYDROLANT, and HYDROPAC Warnings normally include:

- Casualties to major and outermost aids to navigation such as primary lights, lightships, large navigational buoys (LNBs), approach or sea buoys, etc. Mariners should monitor local broadcasts for information concerning inshore, harbor and inland waterways, and aids which otherwise may not affect offshore navigation.
- Establishment of new aids that could affect the safety of offshore navigation. Alterations of an established aid where the change might be confusing are also broadcast.
- Floating dangers, such as those drifting in or near sea-lanes and large derelicts adrift on the high seas. Following the end of the ice season, all reports of ice below 52°N which endanger the North Atlantic shipping lanes are also broadcast. Trees, timbers, and drifting buoys do not normally constitute a danger for oceangoing ships and are not broadcast on the long-range systems. They may be promulgated in local broadcasts.
- New or amended shoal depths, or other changes in hydrography.
- Dangerous wrecks, obstructions, etc.
- Selected exercises and hazardous operations conducted by units of the armed forces are normally broadcast. Specifically, these include the use of flares, searchlights or pyrotechnics that may be mistaken for distress signals, night firing exercises, darken-ship exercises, submarine exercises, missile launches, space missions, and nuclear tests. Such warnings are purely cautionary and are not intended to obstruct the right of innocent passage upon the high seas.



THE DELIMINATION OF SUCH AREAS IS NOT RELATED AND SHALL NOT PREJUDICE THE DELIMITATIONS OF ANY BOUNDARIES BETWEEN STATES  
**WORLDWIDE NAVIGATIONAL WARNING SERVICE (WWNWS) NAVAREAS**



## U.S. RADIO NAVIGATIONAL WARNING SYSTEMS

## RADIO NAVIGATIONAL WARNINGS

- Information regarding drifting mines and unexploded ordnance at depths of less than 100 fathoms is broadcast when there is a clear danger to shipping.
- Vessels engaged in seismic operations, which often detonate explosives and tow extremely long cables.
- Malfunctions, scheduled off-air time for maintenance, and other information concerning electronic aids to navigation, including marine radiobeacon, LORAN-C, GPS, DGPS service, and satellite navigation systems.
- Establishment of offshore structures in or near shipping lanes.
- The presence of large unwieldy tows in congested waters.
- Notification of special changes or events such as alteration or suspension of mandatory traffic separation schemes or activation of a new buoyage system.

In accordance with IMO guidelines (COMSAR/Circ.3, dated 19 April 1996), NIMA no longer promulgates messages for distress, search and rescue, man overboard, overdue vessels, EPIRBs, etc., in NAVAREA IV and XII. Rescue Coordination Centers (RCCs) are responsible for promulgating messages concerning distress and search and rescue as SafetyNET broadcasts via Inmarsat-C. Distress messages outside the limits of NAVAREA IV and XII will continue to be promulgated as HYDROLANT and HYDROPAC Warnings.

### 300F. Warning Message Format

Each of the four different types of Radio Navigational Warnings issued by NIMA uses the same format. The first word of the heading identifies what series is involved: NAVAREA IV, NAVAREA XII, HYDROLANT, or HYDROPAC. Following the series title is the annual serial number, used for identification and record keeping purposes. Following the serial number and year, and enclosed by parentheses, are two more digits: the geographic subregion locator. This is the same as the subregion system used for numbering charts. The limits of the subregions appear on the inside back cover of each Notice to Mariners. Last, a brief geographic description is included.

The second line contains a chart number if the message concerns an aid to navigation. This chart is selected to identify the aid. It is not necessarily the largest-scale chart of the area, but is usually the best for determining how the warning will affect the mariner. It is usually the chart the mariner would select for navigation when approaching the aid.

Times are always expressed in Universal Time Coordinated (UTC).

Navigation safety messages are canceled when no longer applicable. Messages are always canceled by specific notification. A message pertaining to an exercise or event of known duration includes its own cancellation, usually one hour after conclusion of the event. Warnings which are sufficiently permanent in nature to warrant promulgation in the Notice to Mariners are canceled no sooner than six weeks after publication of that printed Notice.

Section III of the Notice to Mariners includes a listing of the serial numbers for all Radio Navigational Warnings in force. Each week, NIMA promulgates a general Radio Navigation Warning message for each series which lists the serial number of each message issued during the last six weeks and in force at the time the message is compiled.

### 300G. SPECIAL WARNINGS and Broadcast Stations

SPECIAL WARNINGS are limited series broadcasts by U.S. Navy and Coast Guard radio stations primarily for the dissemination of official government proclamations affecting shipping.

The texts of all SPECIAL WARNINGS in force are published in Notice to Mariners No. 1 each year. SPECIAL WARNINGS may be broadcast throughout the year. NIMA promulgates SPECIAL WARNINGS 24 hours, 48 hours and for the next five Fridays after their initial release. Their text appears in the next published Notice to Mariners following their broadcast. Each Notice to Mariners lists all in-force SPECIAL WARNINGS.

Masters are urged to provide themselves with an accurate list of all radio navigational warning messages and SPECIAL WARNINGS prior to sailing.

Radio Navigational Warnings issued by NIMA are broadcast by the following stations:

- HYDROLANT Warnings are transmitted from Boston, MA (NMF).
- NAVAREA IV Warnings are transmitted from Boston, MA (NMF).
- HYDROPAC and NAVAREA XII warnings are transmitted from Port Reyes, CA (NMC), Honolulu, HI (NMO); Guam (NRV).

### 300H. NAVTEX

NAVTEX is an international automated direct printing service for the promulgation of navigational and meteorological warnings and urgent information to ships. It provides a low cost, simple means for the automatic reception of Marine Safety Information (MSI) by narrow band direct-printing telegraphy. NAVTEX is a component of the WorldWide Navigational Warning Service (WWNWS) and is an essential element of the Global Maritime Distress and Safety System (GMDSS). Vessels regulated by the Safety of Life at Sea (SOLAS) Convention, as amended in 1988 (cargo vessels over 300 tons and passenger vessels, on international voyages), and operating in areas where NAVTEX service is available, have been required to carry NAVTEX receivers since 1 August 1993. The USCG discontinued broadcasts of safety information over MF Morse frequencies on that date. The USCG voice broadcasts (Ch. 22A), often of more inshore and harbor information, will remain unaffected by NAVTEX.

A NAVTEX user's placard, which is intended to be laminated and either hung or posted near the NAVTEX receiver, can be found on pgs. 3-9 and 3-10.

## RADIO NAVIGATIONAL WARNINGS

**NAVTEX FEATURES:** NAVTEX messages are broadcast on a single frequency, 518 kHz, using the English language. Nominated stations within each NAVAREA transmit on a time-sharing basis to eliminate mutual interference. All necessary information is contained in each transmission. The power of each transmitter is regulated in order to avoid the possibility of interference between transmitters.

A dedicated NAVTEX receiver has the ability to select messages to be printed according to:

- a technical code (B<sub>1</sub>B<sub>2</sub>B<sub>3</sub>B<sub>4</sub>) which appears in the preamble of each message; and
- whether or not the particular message has already been printed.

By International agreement, certain essential classes of safety information such as navigational and meteorological warnings and search and rescue information are non-rejectable to ensure that ships using NAVTEX always receive the most vital information.

NAVTEX coordinators exercise control of messages transmitted by each station according to the information contained in each message and the geographical coverage required. Therefore, the mariner may choose to accept messages, as appropriate, either from the single transmitter which serves the sea area around his position or from a number of transmitters.

**MESSAGE PRIORITIES:** Three message priorities are used to dictate the timing of the first broadcast of a new warning in the NAVTEX service. In descending order of urgency they are:

- VITAL–for immediate broadcast, subject to avoiding interference of ongoing transmissions;
- IMPORTANT– for broadcast at the next available period when the frequency is unused;
- ROUTINE–for broadcast at the next scheduled transmission period.

Both VITAL and IMPORTANT warnings will normally need to be repeated, if still valid, at the next scheduled transmission period.

**TRANSMITTER IDENTIFICATION CHARACTER (B<sub>1</sub>):** The transmitter identification character B<sub>1</sub> is a single unique letter which is allocated to each transmitter. It is used to identify the broadcasts which are to be accepted or rejected by the receiver. Two stations having the same B<sub>1</sub> character must have a sufficient geographical separation so as to minimize interference with one another. NAVTEX transmissions have a designed range of about 400 nautical miles.

**SUBJECT INDICATOR CHARACTERS (B<sub>2</sub>):** Information in the NAVTEX broadcast is grouped by subject. The subject indicator character B<sub>2</sub> is used by the receiver to identify the different classes of messages listed below. The indicator is also used to reject messages concerning certain optional subjects which are not required by the ship (e.g., LORAN-C messages might be rejected by a ship which is not fitted with a LORAN-C receiver). Receivers also use the B<sub>2</sub> character to identify messages, which because of their importance, may not be rejected.

A:	Navigational warnings <sup>1</sup>
B*:	Meteorological warnings <sup>1</sup>
C:	Ice reports
D:	Search and rescue information, and pirate attack warnings <sup>1</sup>
E:	Meteorological forecasts
F*:	Pilot service messages
G*:	DECCA messages
H:	LORAN messages
J:	SATNAV messages
K:	Other electronic navaid messages
L:	Navigational warnings (additional to A) <sup>2</sup>
V to Y:	Special services (allocation by NAVTEX Panel)
Z:	No messages on hand

<sup>1</sup>Cannot be rejected by the receiver

<sup>2</sup> Should not be rejected by the receiver

\*Normally not used in the United States

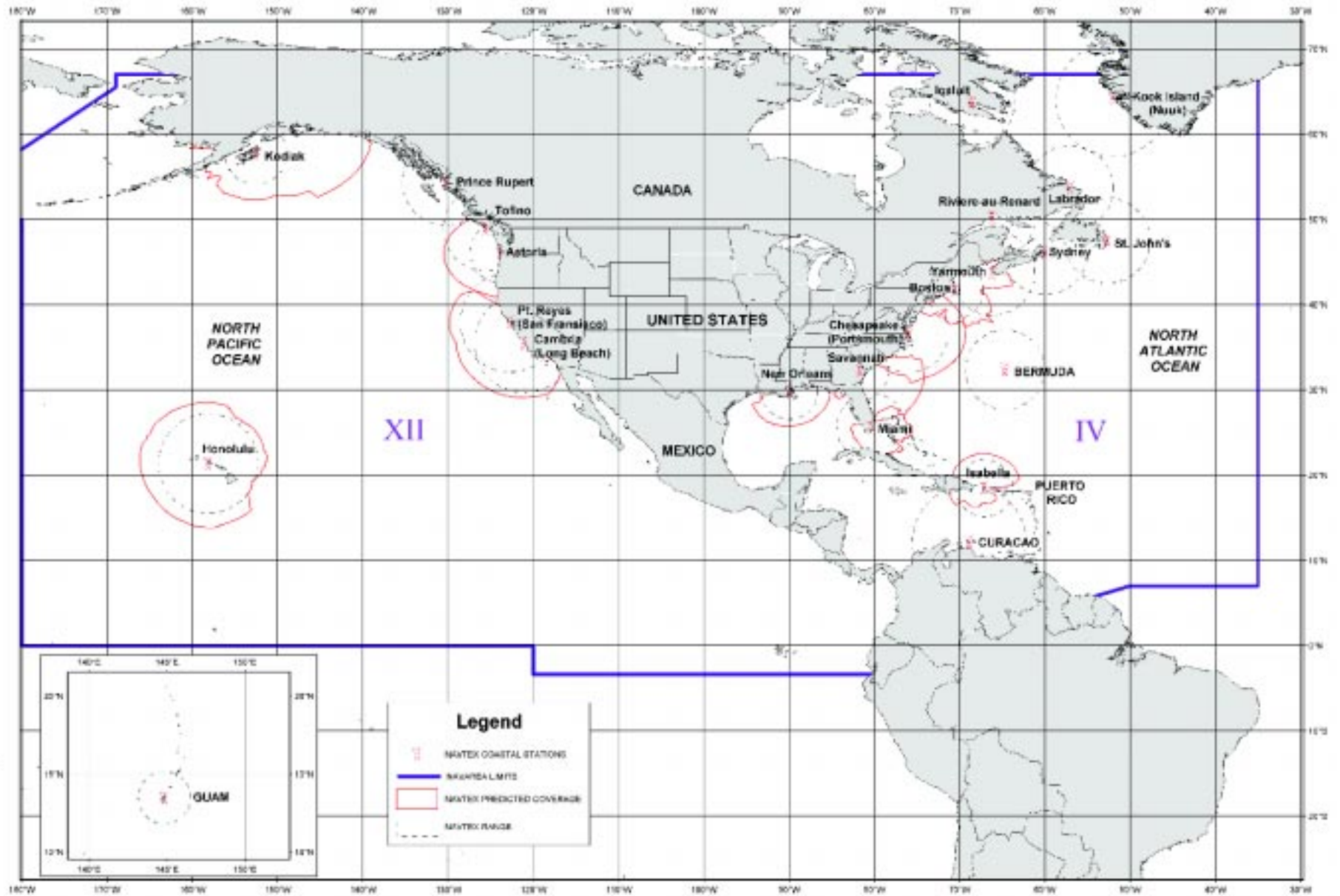
**NOTE:** Since the National Weather Service normally includes meteorological warnings in forecast messages, meteorological warnings are broadcast using the subject indicator character E. U.S. Coast Guard District Broadcast Notices to Mariners affecting ships outside the line of demarcation, and inside the line of demarcation in areas where deep draft vessels operate, use the subject indicator character A. Two subject indicator characters for non-MSI messages in the United States were established 1 October 1995, but currently are not in use: V for Notice to Fisherman and W for Environmental messages.

**MESSAGE NUMBERING (B<sub>3</sub>B<sub>4</sub>):** Each message within a subject group is assigned a serial number, B<sub>3</sub>B<sub>4</sub>, between 01 and 99. This number will not necessarily relate to series numbering in other radio navigational warning systems. On reaching 99, numbering should restart at 01 but avoid the use of message numbers still in force.

### 300I. U.S. NAVTEX Transmitting Stations

NAVTEX coverage is reasonably continuous off the U.S. East, Gulf, and West Coasts, as well the area around Puerto Rico, Kodiak Alaska, Hawaii and Guam. The U.S. has no coverage in the Great Lakes, though coverage of much of the Lakes is provided by the Canadian Coast Guard. U.S. Coast Guard NAVTEX broadcast stations are as follows:

- Boston (NMF) (Station F)
- Chesapeake (Portsmouth) (NMN) (Station N)
- Savannah (NMN) (Station E)
- Miami (NMA) (Station A)
- Isabella (San Juan) (NMR) (Station R)
- New Orleans (NMG) (Station G)
- Cambria (NMQ) (Station Q)
- Point Reyes (San Francisco) (NMC) (Station C)
- Astoria (NMW) (Station W)
- Kodiak (NOJ) (Station J)
- Honolulu (NMO) (Station O)
- Guam (NRV) (Station V)



NAVTEX COVERAGE WITHIN NAVAREAS IV AND XII

## **RADIO NAVIGATIONAL WARNINGS**

### **PRACTICAL INSTRUCTIONS FOR THE USE OF A NAVTEX RECEIVER**

The NAVTEX receiver is a Narrow Band Direct Printing (NBDP) device operating on the frequency 518 kHz (some equipment can also operate on 490 and 4209.5 kHz), and is a vital part of the Global Maritime Distress and Safety System (GMDSS).

It automatically receives Maritime Safety Information such as Radio Navigational Warnings, Storm/Gale Warnings, Meteorological Forecasts, Piracy Warnings, Distress Alerts, etc. (full details of the system can be found in IMO Publication IMO-951E - The NAVTEX Manual).

The information received is printed on the receiver's own paper recorder roll. Each message begins with a start of message function (ZCZC) followed by a space then four B characters. The first, ( $B_1$ ), identifies the station being received, the second, ( $B_2$ ), identifies the subject i.e. Navigational Warning, Met Forecasts, etc., and the third and fourth, ( $B_3 + B_4$ ), form the consecutive number of the message from that station. This is followed by the text of the message and ends with an end of message function (NNNN).

The NAVTEX system broadcasts COASTAL WARNINGS that cover the area from the Fairway Buoy out to about 250 nautical miles from the transmitter; the transmissions from some transmitters can be received out to 400 nautical miles and even further in unusual propagational conditions.

The practical advice on the other side of this card will help to ensure that you make the most efficient use of your NAVTEX receiver, guaranteeing the reception of Maritime Safety Information within the respective coverage areas of the NAVTEX stations being used.

## **RADIO NAVIGATIONAL WARNINGS**

### **NAVTEX RECEIVER CHECK-OFF LIST**

For a NAVTEX receiver to function effectively, it is essential that the operator should have a sound knowledge of how to programme and operate his particular receiver. This is not difficult provided the following practical steps are followed:

1. Make sure that there are sufficient rolls of NAVTEX paper on board.
2. Check that there is paper in the receiver.
3. Turn the NAVTEX receiver on at least four hours before sailing, or better still, leaves it turned on permanently. This avoids the chance of losing vital information that could affect the vessel during its voyage.
4. Make sure that the Equipment Operating Manual is available close to the equipment, paying particular attention to the fact that your equipment may be programmed differently from other makes and models.
5. Using the Equipment Operating Manual, make a handy guide for programming, status and autotesting procedures for your vessel's equipment, place it in a plastic cover and keep it with the equipment.
6. Have available next to the equipment a plasticised copy of the NAVAREAs/METAREAs in which the vessel is likely to sail, showing the NAVTEX stations, their coverage ranges, their respective time schedules and B<sub>1</sub> characters.
7. Programme your receiver to accept only those messages identified with the B<sub>1</sub> character of the NAVTEX station which covers the area in which your vessel is currently sailing and the one covering the area into which you are about to sail. This will avoid the equipment printing information which has no relevance to your voyage and will avoid unnecessary waste of paper.
8. Programme your receiver to accept only those messages identified with the B<sub>2</sub> characters (type of message) you wish to receive. It is recommended that most B<sub>2</sub> characters (A to Z) be programmed, but you may exclude those for navaid equipments (Decca or Loran for example) with which your vessel is NOT fitted. Be aware that the characters A, B and D MUST be included, as they are mandatory.
9. Take extra care not to confuse the programming of B<sub>1</sub> characters (station designators) with those of B<sub>2</sub> characters (type of messages). It is very easy for an operator to believe that he/she is programming B<sub>1</sub> characters when in fact they are programming B<sub>2</sub> characters. After programming ALWAYS CHECK the programme status to ensure that it is correct.
10. If information is received incomplete/garbled, inform the relevant NAVTEX station, giving the time of reception (UTC) and your vessel's position. By so doing, not only will you obtain the information you require, but you will also help to improve the system. In the same way, any safety-critical occurrences observed during the voyage must be passed immediately to the nearest (or most convenient) Coast Radio Station and addressed to the relevant NAVAREA/METAREA or National Co-ordinator responsible for the area in which you are sailing.



## RADIO NAVIGATIONAL WARNINGS

### 300J. Worldwide NAVTEX Transmitting Stations

The following operational coast radio stations, extracted from ANNEX 7 of the IMO GMDSS Master Plan, provide

NAVTEX service. The frequency is 518 kHz unless otherwise indicated. For scheduled Maritime Safety Information (MSI) broadcast times of a particular coast radio station see sec. 300L.

NAV/MET Area	Country	NAVTEX Coast Station	Position	Range (NM)	Transmitter Identification (B <sub>1</sub> ) Character
I	Belgium	Oostende	51-11N 02-48E	150	M
				55	T
	Denmark (Greenland-East Coast)	Reykjavik	64-05N 21-51W	550	X
	Estonia	Tallinn	59-30N 24-30E	250	U
	France	Niton (U.K.)	50-35N 01-18W	270	K
					T (French) <sup>1</sup>
	Iceland	Reykjavik	64-05N 21-51W	550	R
	Ireland	Valentia	51-27N 09-49W	400	W
		Malin Head	55-22N 07-21W	400	Q
	Netherlands	Netherlands Coast Guard (Den Helder)	52-57N 04-47E	250	P
	Norway	Bodø	67-16N 14-23E	450	B
		Rogaland	58-48N 05-34E	450	L
		Vardø	70-22N 31-06E	450	V
		Svalbard	78-04N 13-38E	450	A
		Ørlandet	63-40N 09-33E	450	N
	Russian Federation	Murmansk	68-46N 32-58E	300	C
		Arkhangel'sk	64-33N 40-32E	300	F
	Sweden	Stockholm (Bjuröklubb)	64-28N 21-36E	300	H
		Stockholm (Gislövshammer)	55-29N 14-19E	300	J
		Stockholm (Grimeton)	57-06N 12-23E	300	D
	United Kingdom	Cullercoats	55-04N 01-28W	270	G
					U <sup>1</sup>
		Portpatrick	54-51N 05-07W	270	O
					C <sup>1</sup>
		Niton	50-35N 01-18W	270	S
					I <sup>1</sup>
II	France	Corsen (CROSS)	48-28N 05-03E	300	A
					E (French) <sup>1</sup>
	Portugal	Horta (Azores)	38-32N 28-38W	640	F
					J (Portuguese) <sup>1</sup>
		Monsanto	38-44N 09-11W	530	R
					G (Portuguese) <sup>1</sup>
	Spain	Coruna	43-21N 08-27W	400	D
		Tarifa	36-01N 05-34W	400	G
		Las Palmas	28-10N 15-25W	400	I

<sup>1</sup> 490 kHz broadcast service.

# RADIO NAVIGATIONAL WARNINGS

NAV/MET Area	Country	NAVTEX Coast Station	Position	Range (NM)	Transmitter Identification (B <sub>1</sub> ) Character
III	Bulgaria	Varna	43-04N 27-46E	350	J
	Croatia	Split	43-30N 16-29E	85	Q
	Cyprus	Cyprus	35-03N 33-17E	220	M
	Egypt	Alexandria	31-12N 29-52E	350	N
	France	La Garde (CROSS)	43-06N 05-59E	250	W
					S (French) <sup>1</sup>
	Greece	Iraklion	35-20N 25-07E	280	H
		Kerkira	39-37N 19-55E	280	K
		Limnos	39-52N 25-04E	280	L
	Israel	Haifa	32-49N 35-00E	200	P
	Italy	Roma	41-48N 12-31E	320	R
		Augusta	37-14N 15-14E	320	V
		Cagliari	39-14N 09-14E	320	T
		Trieste	45-41N 13-46E	320	U
	Malta	Malta	35-49N 14-32E	400	O
	Russian Federation	Novorossiysk	44-42N 37-44E	300	A
	Spain	Cabo de la Nao	38-43N 00-09E	300	X
	Turkey	Istanbul	41-04N 28-57E	300	D
		Samsun	41-17N 36-20E	300	E
		Antalya	36-53N 30-42E	300	F
		Izmir	38-22N 26-36E	300	I
	Ukraine	Mariupol	47-06N 37-33E	280	B
		Odessa	46-29N 30-44E	280	C
IV	Bermuda	Bermuda	32-23N 64-40W	280	B
	Canada	Riviere-au-Renard	50-15N 66-10W	300	C
					D (French)
		Warton	44-20N 81-10W	300	H
		St. John's	47-30N 52-40W	300	O
		Thunder Bay	48-25N 89-20W	300	P
		Sydney	46-10N 60-00W	300	Q
					J (French)
		Yarmouth	43-45N 66-10W	300	U
					V (French)
		Labrador	53-40N 57-00W	300	X
		Iqaluit	63-43N 68-33W	300	T
					S (French) <sup>1</sup>
	Denmark (Greenland-West Coast)	Nuuk (Kook Island)	64-04N 52-01W	400	W
	Netherlands Antilles	Curaçao	12-10N 68-52W	400	H
	United States	Miami	25-37N 80-23W	240	A
		Boston	41-43N 70-30W	200	F
		New Orleans	29-53N 89-57W	200	G
		Chesapeake (Portsmouth)	36-43N 76-00W	280	N

<sup>1</sup> 490 kHz broadcast service.

# RADIO NAVIGATIONAL WARNINGS

NAV/MET Area	Country	NAVTEX Coast Station	Position	Range (NM)	Transmitter Identification (B <sub>1</sub> ) Character
IV	United States (cont.)	Isabella	18-28N 67-04W	200	R
		Savannah	32-08N 81-42W	200	E
VI	Argentina	Ushuaia	54-48S 68-18W	280	M
		Rio Gallegos	51-37S 65-03W	280	N
		Comodoro Rivadavia	45-51S 67-25W	280	O
		Bahia Blanca	38-43S 62-06W	280	P
		Mar del Plata	38-03S 57-32W	280	Q
		Buenos Aires	34-36S 58-22W	560	R
	Uruguay	La Paloma	34-40S 54-09W	280	F
					A (Spanish) <sup>1</sup>
VII	Namibia	Walvis Bay	23-03S 14-37E	378	B
	South Africa	Cape Town	33-40S 18-43E	500	C
		Port Elizabeth	34-02S 25-33E	500	I
		Durban	30-00S 31-30E	500	O
VIII	India	Bombay	19-05N 72-50E	N.I.	G
		Madras	13-08N 80-10E	N.I.	P
	Mauritius	Mauritius	20-10S 57-28E	400	C
IX	Bahrain	Hamala	26-09N 50-28E	300	B
	Egypt	Ismailia (Serapeum)	30-28N 32-22E	400	X <sup>2</sup>
		Quseir (Kosseir)	26-06N 34-17E	350	V
	Iran	Bushehr	28-59N 50-50E	300	A
		Bandar Abbas	27-07N 56-04E	300	F
	Saudi Arabia	Dammam	26-26N 50-06E	390	G
		Jiddah	21-23N 39-10E	390	H
	Oman	Muscat	23-36N 58-30E	270	M
	Pakistan	Karachi	24-51N 67-03E	400	P
X	Australia is only providing coastal warnings through the International SafetyNET Service (AUSCOAST).				
XI	China	Sanya	18-14N 109-30E	250	M
		Guangzhou	23-08N 113-32E	250	N
		Fuzhou	26-01N 119-18E	250	O
		Shanghai	31-08N 121-33E	250	Q
		Dalian	38-52N 121-31E	250	R
	Indonesia	Jayapura	02-31S 140-43E	300	A
		Ambon	03-42S 128-12E	300	B
		Makassar	05-06S 119-26E	300	D
		Jakarta	06-06S 106-54E	300	E
	Japan	Otaru	43-19N 140-27E	400	J
		Kushiro	42-57N 144-36E	400	K
		Yokohama	35-14N 139-55E	400	I
		Moji	34-01N 130-56E	400	H
		Naha	26-05N 127-40E	400	G

<sup>1</sup> 490 kHz broadcast service.

<sup>2</sup> Includes 4209.5 kHz broadcast service.

# RADIO NAVIGATIONAL WARNINGS

NAV/MET Area	Country	NAVTEX Coast Station	Position	Range (NM)	Transmitter Identification (B <sub>1</sub> ) Character
XI	Malaysia	Pinang	05-26N 100-24E	350	U
		Miri	04-28N 114-01E	350	T
		Sandakan	05-54N 118-00E	350	S
	Korea, Republic of	Chukpyon	37-03N 129-26E	200	V
					J (Korean) <sup>1</sup>
		Pyonsan	35-36N 126-29E	200	W
					K (Korean) <sup>1</sup>
	Singapore	Singapore	01-25N 103-52E	400	C
	Taiwan	Chi-lung (Keelung)	25-08N 121-45E	540	P <sup>2</sup>
		Linyuan	22-29N 120-25E	540	P <sup>2</sup>
		Meilung	23-59N 121-37E	350	P <sup>1</sup>
		Lintou	23-33N 119-38E	350	P <sup>1</sup>
	Thailand	Bangkok	13-43N 100-34E	200	F
	United States	Guam	13-29N 144-50E	100	V
	Vietnam	Ho Chi Minh City	10-47N 106-40E	400	X
		Da Nang	16-05N 108-13E	400	P
	Hong Kong (China)	Hong Kong	22-13N 114-15E	400	L
XII	Canada	Prince Rupert	54-17N 130-25W	300	D
		Tofino	48-55N 125-32W	300	H
	United States	Pt. Reyes (San Francisco)	37-55N 122-44W	350	C
		Kodiak	57-46N 152-34W	200	J
		Honolulu	21-22N 158-09W	350	O
		Cambria (Long Beach)	35-31N 121-03W	350	Q
		Astoria	46-10N 123-49W	216	W
XIII	Russian Federation	Kholmsk	47-02N 142-03E	300	B
XV	Chile	Antofagasta	23-40S 70-25W	300	A
					H (Spanish)
		Valparaiso	32-48S 71-29W	300	B
					I (Spanish)
		Talcahuano	36-42S 73-06W	300	C
					J (Spanish)
		Puerto Montt	41-30S 72-58W	300	D
					K (Spanish)
		Punta Arenas (Magallanes)	53-09S 70-58W	300	E
					L (Spanish)
		Isla de Pascua	27-09S 109-25W	300	F
					G (Spanish)
XVI	Peru	Paita	05-05S 81-07W	400	S
		Callao	12-03S 77-09W	400	U
		Mollendo	17-01S 72-01W	400	W

<sup>1</sup> Includes 490 kHz broadcast service.

<sup>2</sup> 4209.5 kHz broadcast service.

## RADIO NAVIGATIONAL WARNINGS

### 300K. Ice Information

INTERNATIONAL ICE PATROL: In February or March, depending upon iceberg conditions, the International Ice Patrol (IIP) commences its annual service of monitoring and broadcasting the southeastern, southern, and southwestern limits of icebergs in the vicinity of the Grand Banks of Newfoundland. Reports of ice in this area

originate from passing ships and IIP reconnaissance flights. During the ice season, IIP broadcasts two message bulletins and a radiofacsimile chart each day containing ice information to inform ships of the extent of the estimated limits of all known ice. However, regardless of ice density the IIP will begin broadcasting at least weekly (Friday) updates starting on 16 February.

Broadcasts of IIP bulletins are as follows:

BROADCAST STATION	BROADCAST TIME (UTC)	FREQUENCIES
NAVTEX Broadcast		
USCG Communication Station Boston/NMF.	0045, 0445, 0845, 1245, 1645, 2045.	518 kHz, F1B.
	Special Broadcast during next available time slot.	518 kHz, F1B.
Canadian CG Marine Communications and Traffic Services St. John's/VON.	1820 (winter), 2220 (summer).	518 kHz, F1B.
SITOR Broadcast		
USCG Communication Station Boston/NMF. (NIK via NMF)	0030.	6314, 8416.5, 12579 kHz, F1B.
	1218.	8416.5, 12579, 16806.5 kHz, F1B.
RADIOFACSIMILE Broadcast		
USCG Communication Station Boston/NMF. (NIK via NMF)	1600, 1810.	6340.5, 9110, 12750 kHz, F3C.
Offenbach (Main), Germany via Pinneberg/DDK/DDH.	0930, 2100.	3855, 7880, 13882.5 kHz, F3C.
Radio Telephone		
Canadian CG Marine Communications and Traffic Services St. Anthony/VCM. (Iceberg Bulletin for NFLD Coast and Belle Isle)	0107, 0907, 1907.	2598 kHz, J3E.
	Continuous.	VHF Channel 21B, 83B.
Special Broadcasts		
Canadian CG Marine Communications and Traffic Services St. John's/VON.	0007, 0837, 1637, 2207 and as required.	2598 kHz, J3E.
	Continuous.	VHF Channel 21B, 28B, 83B.
Inmarsat SafetyNET Broadcasts		
AOR-E and AOR-W Satellites.	0000, 1200.	Inmarsat-C SafetyNET.
	Special Broadcasts of targets outside limits sent upon receipt.	
World Wide Web		
International Ice Patrol Web Page.	Updated after 0000, 1200.	<a href="http://www.uscg.mil/lantarea/iip/home.html">http://www.uscg.mil/lantarea/iip/home.html</a>
National Weather Service.	Updated daily after 1600.	<a href="http://weather.noaa.gov/pub/fax/PIEA88.gif">http://weather.noaa.gov/pub/fax/PIEA88.gif</a>
Automated Weather Network		
Automated Weather Network (AWN).	Updated daily at 0000, 1200.	Header: STNT41 KNIK.
Telefacsimile upon Demand		
Fax On Demand.	Updated daily after 1600.	Fax: (1) 860-441-2773.
E-mail On Demand.	Updated daily after 1600.	<a href="mailto:ftpmail@weather.noaa.gov">ftpmail@weather.noaa.gov</a>

## RADIO NAVIGATIONAL WARNINGS

Mariners should note that NAVTEX ice reports may be programmed for rejection at the receiver. Mariners desiring to receive IIP NAVTEX ice reports must ensure that their receivers are appropriately programmed for reception.

The Ice Chart Facsimile and the 0000Z and 1200Z Ice Bulletins are available on the World Wide Web at the International Ice Patrol's products section. IIP's homepage can be found at:

<http://www.uscg.mil/lantarea/iip/home.html>

The Ice Chart Facsimile is also available via Fax on Demand from the IIP's telefax machine. Dial (1) 860-441-2773 from a fax phone, and press "Copy" after successful connection.

The Ice Chart Facsimile is also available via E-mail on Demand from the National Weather Service's FTP e-mail system. Send an e-mail to [ftp@weather.noaa.gov](mailto:ftp@weather.noaa.gov) with any subject line. The body of the text should read as follows:

```
open
cd fax
get PIEA88.gif    ---or---    get PIEA88.tif
quit
```

The e-mail server will then automatically send a GIF or TIF formatted image of the facsimile back to the sender's e-mail address.

The Ice Bulletin is now posted to the Automated Weather Network, a weather service bulletin board accessible by U.S. Department of Defense and NATO units. Use header STNT41 KNIK to access IIP's products.

The 0000Z and 1200Z Ice Bulletins will be broadcast over the AOR-E and AOR-W Satellites. The 0000Z bulletin is broadcast between 2000 and 2359Z, and the 1200Z bulletin is broadcast at 1130Z. In addition, safety broadcasts regarding icebergs outside of the limits of all known ice will be transmitted over both satellites upon receipt.

**COMMUNICATIONS WITH COMMANDER, INTERNATIONAL ICE PATROL:** All ships are encouraged to immediately report sightings of ice to COMINTICEPAT GROTON CT, when near or within the "estimated limits of all known ice." Ships are encouraged to make reports even if no ice is sighted. The following information should be included when reporting ice:

- Ship name and call sign.
- Iceberg position [specify either the geographic coordinates (latitude, longitude) or range/bearing from ship's stated geographic position (latitude, longitude)].
- Time of sighting (in UTC).
- Method of detection (visual, radar, or both).
- Size and shape of iceberg (see tables below).
- Sea ice concentration (in tenths).
- Sea ice thickness in feet or meters (specify units).

The following tables describe size and shape criteria used by the Ice Patrol:

DESCRIPTIVE NAME	HEIGHT		LENGTH	
	(ft)	(m)	(ft)	(m)
Growler	< 17	< 5	< 50	< 15
Small Berg	17-50	5-15	50-200	15-60
Medium Berg	51-150	16-45	201-400	61-122
Large Berg	151-240	46-75	401-670	123-213
Very Large Berg	> 240	> 75	> 670	> 213

SHAPE	DESCRIPTION
Non-Tabular	This category covers all icebergs that are not tabular-shaped as described below. This includes icebergs that are dome-shaped, sloping, blocky, and pinnacle.
Tabular	Flat topped iceberg with length-height ratio greater than 5:1.

In addition to ice reports, sea surface temperature and weather reports are important to the Ice Patrol in predicting the drift and deterioration of ice and in planning aerial patrols. If you make routine weather reports to METEO WASHINGTON, please continue to do so. If your vessel does not normally make these reports, it is requested that you make special reports directly to the Ice Patrol every 6 hours when within the area between latitudes 40°N to 52°N and between longitudes 39°W to 57°W. Ships with one radio operator may prepare the reports every 6 hours and

hold them for transmission when the radio operator is on watch. When reporting, please include the following:

- Ship position.
- Course.
- Speed.
- Visibility.
- Air and sea surface temperature.
- Barometric pressure.
- Wind direction and speed.

## RADIO NAVIGATIONAL WARNINGS

Report ice sightings, weather, and sea surface temperature to COMINTICEPAT GROTON CT through Inmarsat, U.S. Coast Guard Communication Stations or Canadian Coast Guard Marine Communications and Traffic Services Centers. If reporting iceberg sightings to IIP through Inmarsat-A or -C, use service code 42. This will ensure the ice information immediately reaches the COMINTICEPAT GROTON CT. There is no charge to the user for iceberg reports sent using service code 42.

### INMARSAT-A (General Instructions):

- Select Telenor (global identification code 01).
- Select routine priority.
- Select duplex telex channel.
- Initiate the call.
- Upon receipt of GA (Go Ahead), select the desired two-digit prefix access code followed by at + sign (42+).
- Send the report.
- The message will be forwarded at NO CHARGE from the mariner to International Ice Patrol by Telenor Satellite Services, Inc.

### INMARSAT-C (General Instructions):

- Access the two-digit code service on SES as instructed in the manufacturer's information.
- Using the SES text editor, prepare the message.
- Enter the two-digit code of the service required (42).
- Select the CES (01, Telenor, AORW).
- Transmit the message.
- Wait for acknowledgment from the CES.
- The message will be forwarded at NO CHARGE from the mariner to International Ice Patrol by Telenor Satellite Services, Inc.

Iceberg sightings may also be reported on the guarded frequencies listed below:

### Canadian Coast Guard Marine Communications and Traffic Services

Receiving Station	Bands Guarded/ Transmit Frequency (Day/Night)
St. John's (VON), Newfoundland (St. John's Coast Guard Radio)	VHF Ch. 16 2182 kHz, H3E
St. Anthony (VCM), Newfoundland (St. Anthony Coast Guard Radio)	VHF Ch. 16 2182 kHz, H3E
Labrador (VOK)  (Labrador Coast Guard Radio)	VHF Ch. 16 2182 kHz, H3E
Placentia (VCP), Newfoundland (Placentia Coast Guard Radio)	VHF Ch. 16 2182 kHz, H3E

### Canadian Coast Guard Marine Communications and Traffic Services

Receiving Station	Bands Guarded/ Transmit Frequency (Day/Night)
Port aux Basques (VOJ), Newfoundland (Port aux Basques Coast Guard Radio)	VHF Ch. 16 2182 kHz, H3E
Sydney (VCO), Nova Scotia (Sydney Coast Guard Radio)	VHF Ch. 16 2182 kHz, H3E
Dartmouth (VCS), Nova Scotia (Halifax Coast Guard Radio)	VHF Ch. 16 2182 kHz, H3E
Saint John (VAR), New Brunswick (Fundy Coast Guard Radio)	VHF Ch. 16 2182 kHz, H3E

### U.S. Coast Guard Communication Stations

#### DIRECT PRINTING RADIOTELETYPE

#### SELCALL 1097 (NMN)

(Assigned Frequency)

Ship Transmit	Shore Transmit	
4174 kHz	4212 kHz	On request
6264.5 kHz	6316 kHz	2300-1100
8388 kHz	8428 kHz	Continuous
12490 kHz	12592.5 kHz	Continuous
16696.5 kHz	16819.5 kHz	Continuous
22297.5 kHz	22389.5 kHz	1100-2300

#### SSB VOICE FREQUENCIES

(Carrier Frequency)

Ship Transmit	Shore Transmit	NMF	NMN
4134 kHz	4426 kHz	2230-1030	2300-1100
6200 kHz	6501 kHz	Continuous	Continuous
8240 kHz	8764 kHz	Continuous	Continuous
12242 kHz	13089 kHz	1030-2230	1100-2300
16432 kHz	17314 kHz	On request	On request

NOTE that USCG CAMSLANT Chesapeake (NMN) provides all U.S. east coast ON-CALL SITOP service.

Telephone communications are available to the Ice Patrol Office in Groton, CT throughout the season. The numbers are: (1) 860-441-2626 (Ice Patrol Duty Officer, 0700-1630 EST) or (1) 757-398-6231 (USCG Atlantic

## RADIO NAVIGATIONAL WARNINGS

Area Command Center, Portsmouth, VA, after working hours); IIP fax: (1) 860-441-2773.

**CAUTIONS:** The IIP attempts to locate and track icebergs south of 52°N, especially those south of 48°N, which may pose a hazard to shipping in the vicinity of the Grand Banks of Newfoundland. When the position, time of sighting, size, and description of icebergs are reported to IIP, the data is entered into a computer program that predicts their drift. Please note that the iceberg positions reported in all IIP products are always the predicted position for the date and time of that product. As the time after sighting increases, so does the probability of error in the icebergs' predicted positions. This probability of error is taken into account when the limits of all known ice are determined.

The purpose of the Ice Patrol's messages and charts is to advise mariners of the best estimate of the extent of icebergs in the region of the Grand Banks of Newfoundland. The iceberg positions represented within the estimated limits are intended only to give the mariner an understanding of the relative densities of icebergs. Any attempt to navigate among icebergs within the estimated limits on the basis of the facsimile charts or the message bulletins is strongly discouraged.

While the IIP attempts to be as accurate as possible in reporting the presence of icebergs to mariners, it is not possible to assure that all icebergs are reported. Mariners are strongly urged to use radar carefully, but not to rely entirely upon it to detect icebergs, since icebergs often are not detected distinctly with radar. There is no substitute for vigilance and prudent seamanship, especially when navigating near sea ice and icebergs.

The IIP earnestly solicits comments, particularly concerning the value and effectiveness of its services. Additionally, facsimile charts annotated with the ship's position, frequency used, and time of receipt can also help the IIP to better serve its customers. Comments can be provided using the phone and/or fax numbers above, or by mail to:

COMMANDER  
INTERNATIONAL ICE PATROL  
1082 SHENNECOSSETT ROAD  
GROTON CT 06340-6095

**NATIONAL ICE CENTER (NIC):** The National Ice Center is a multi-agency operational center representing the Department of Defense (U.S. Navy), the Department of Commerce (NOAA), and the Department of Transportation (U.S. Coast Guard). The NIC mission is to provide worldwide operational sea ice analyses and forecasts for the armed forces of the U.S. and Allied nations, the Departments of Commerce and Transportation, and other U.S. government and international agencies, and the civil sector. The NIC produces analyses and forecasts of Arctic, Antarctic, Great Lakes and Chesapeake Bay ice conditions. These products are available, in the following two formats, on the World Wide Web at the NIC Website:

- <http://www.natice.noaa.gov>
- GIF and TIFF image files using the World Meteorological Organization's (WMO) Ice Egg Code.
- Geographic Information System (GIS) vector files.
- Some of the NIC's products are also transmitted as text messages.

The NIC is located at:

NATIONAL ICE CENTER  
FEDERAL BUILDING 4  
4251 SUITLAND ROAD  
WASHINGTON DC 20395

Telephone: (1) 301-457-5303.

**GULF OF ST. LAWRENCE, ST. LAWRENCE RIVER, SOUTH AND EAST COASTS OF NEWFOUNDLAND AND LABRADOR COAST:** Commencing December 15 each year, and until ice in the Gulf of St. Lawrence is no longer likely to hinder shipping, an experienced ship Master will be attached to ECAREG CANADA as Ice Operations Officer. During this period, vessels inbound to the Gulf of St. Lawrence should report using the address ECAREG CANADA through any Marine Communications and Traffic Services (MCTS) Center 24 hours prior to their expected entry into the Cabot Strait, stating their position, destination, whether loaded or in ballast, ice class (if any), and classification society. This procedure will facilitate the passing of ice information and a suggested shipping track as necessary. Ships bound for ports on the south and east coasts of Newfoundland and along the coast of Labrador should also report to ECAREG CANADA for ice information, routing and escort as necessary. Gulf shipping interests are requested to maintain close contact with the Ice Operations Office so that all routing and escort assistance needed may be provided as circumstances permit.

All radio communications addressed to ECAREG CANADA and passed through a MCTS Center will be handled free of charge to the ship.

Ships outbound from Canadian ports east of Sept-Iles should report to the Ice Operations Officer ECAREG CANADA through any MCTS Center 24 hours in advance of sailing time, if possible, for ice information, suggested routing, and escort if deemed necessary.

Ships outbound from Sept-Iles and ports west of Sept-Iles may obtain the latest bulletin pertaining to reported ice conditions, forecast, and recommended routing for the Gulf and River St. Lawrence by calling Quebec, Les Escoumins or Montreal Coast Guard Traffic Center on the control frequency of the sector in which the vessel is located. Vessels bound seaward when passing off Sept-Iles should also contact ECAREG CANADA through any MCTS Center for up-to-date ice information, routing, and icebreaker escort if required.

During the winter navigation season, MCTS Centers broadcast ice advisories and forecasts on a regular schedule as indicated in the station listings. Ice forecasts will normally be for five-day periods when ice is light and of no immediate concern to shipping. Frequency of issue will be increased and forecast periods shortened when direct tactical



## RADIO NAVIGATIONAL WARNINGS

support to shipping is required. Ice advisories will normally include a summary of existing ice conditions, a forecast of ice conditions for an appropriate period (2 to 5 days), and may include a suggested shipping track. This information is also broadcast in the form of charts by facsimile from stations so equipped.

**GREAT LAKES:** The Department of Fisheries and Oceans operates a service for the support of vessels navigating in Canadian waters of the Great Lakes during the season in which navigation is restricted by ice. This service includes the promulgation of up-to-date information on ice conditions, routing advice, aids to navigation, and the provision of icebreaker support when available and considered necessary, as well as the formation of convoys when conditions dictate. The following information outlines the service and facilities provided by the Canadian Coast Guard:

- Assembly and distribution of ice advisories, forecasts, and synoptic ice charts.
- Routing advice through light ice conditions, upon request.
- Coordination and direction of icebreaker support activities.

The service is known as Ice Sarnia and will commence December 1 each year, terminating when ice conditions permit unrestricted navigation. The address is:

ICE SARNIA  
CANADIAN COAST GUARD  
105 CHRISTINA STREET SOUTH  
SARNIA ONTARIO N7T 7W1

Telephone: (1) 519-383-1855 or (1) 519-337-2498.

The Canadian Coast Guard has a limited number of icebreakers available for the support of shipping, and these are heavily committed. Therefore, it is emphasized that icebreaker support can not always be provided on short notice. In order to make the most efficient use of available resources it is most important that Ice Sarnia be kept informed about the position and projected movements of vessels on the Great Lakes. Masters or agents should notify Ice Sarnia as soon as their sailing time is known, giving their ETD and destination in order to receive the most up-to-date information

**ARCTIC AND HUDSON STRAIT AND BAY:** The Canadian Coast Guard operates a service for the support of ships navigating in the ice-congested Canadian Arctic and other ice-free northern waters during the summer navigation season. Access to this service can be obtained by calling NORDREG CANADA. This support includes the promulgation of up-to-date information on ice conditions, advice on routes, aids to navigation, icebreaker support when available and considered necessary, and organization of convoys when conditions dictate.

Throughout the navigation season ice advisories, forecasts, and synoptic ice charts are issued by Ice Central in Ottawa and broadcast daily by radio and radio facsimile.

The Canadian Coast Guard has established a MCTS Center at Iqaluit, Nunavut. The Center opens in early June

and is staffed until the end of December, or as long as ships are at sea in the area. The address is:

FISHERIES AND OCEANS  
CANADIAN COAST GUARD  
NORDREG CANADA  
PO BOX 189  
IQALUIT NUNAVUT X0A 0H0

Telephone: (1) 867-979-5724.

Fax: (1) 867-979-4236.

Radiogram: NORDREG CANADA.

An Ice Information Office at Churchill, Manitoba supplies information on local ice conditions to ships in port. The address is:

ICE INFORMATION OFFICE  
PORT WARDEN  
NATIONAL HARBOURS BOARD BUILDING  
CHURCHILL MANITOBA R0B 0E0

Telephone: (1) 204-675-2263.

Fax: (1) 204-675-2611.

The Canadian Coast Guard has a limited number of icebreakers for the support of shipping. Because of heavy commitments, it is emphasized therefore that icebreaker support cannot always be provided at short notice. It is important that the Arctic Canada Traffic System (NORDREG CANADA) is as well informed as possible about the position and movements of ships in the Canadian Arctic. Ships bound for or leaving Hudson Bay or the High Arctic are required to contact NORDREG CANADA in accordance with procedures specified in the latest Annual Edition of Canadian Notices to Mariners.

**BALTIC SEA ICE CODE:** This code is used by the following countries: Denmark, Finland, Germany, Netherlands, Norway, Poland, Sweden, Russia, Estonia, Lithuania, and Latvia. The general form of the message code is:

ICE: AA 1ABSBTBKB2ABSBTBKB . . . nABSBTBKB  
BB 1ABSBTBKB2ABSBTBKB . . . nABSBTBKB  
CC etc.

### Letter Symbols:

AA, BB, etc.	Index letters defining districts for fairway sections or sea areas to which the following five-figure groups refer.
1, 2, . . . n	Identifier figures of code groups referring to fairway sections or sea areas within the districts defined by AA, BB, CC, etc. The number cannot exceed 9.
AB	Amount and arrangement of sea ice (Table I).
SB	Stage of ice development (Table II).
TB	Topography or form of ice (Table III).

## RADIO NAVIGATIONAL WARNINGS

KB                      Navigational conditions in ice (Table IV).

Notes:

- When a section is free of ice, the corresponding group may be omitted from the report. It should, however, always be coded as n0//KB the first 2 days after it has become ice-free and only omitted the third day if the ice-free conditions continue.
- When all sections within a district are ice-free, the whole district shall be omitted from the report.
- The districts for which ice information is issued by countries using this code are indicated for each country in the following pages.

Table I

AB - Amount and arrangement of sea ice

- 0 Ice-free
- 1 Open water - concentration less than 1/10
- 2 Very open pack ice - concentration 1/10 to less than 4/10
- 3 Open pack ice - concentration 4/10 to 6/10
- 4 Close pack ice - concentration 7/10 to 8/10
- 5 Very close pack ice - concentration 9/10 to 9+/10\*
- 6 Very close pack ice, including consolidated pack ice - concentration 10/10
- 7 Fast ice with pack ice outside
- 8 Fast ice
- 9 Lead in very close or compact pack ice or along the ice edge
- / Unable to report
- \* 9+/10 means 10/10 ice concentration with small openings

Note: The higher code figure has greater priority in reporting.

Table II

SB - Stage of ice development

- 0 New ice or dark nilas (less than 5 cm thick)
- 1 Light nilas (5 to 10 cm thick) or ice rind
- 2 Gray ice (10 to 15 cm thick)
- 3 Gray-white ice (15 to 30 cm thick)
- 4 Thin first-year ice, first stage (30 to 50 cm thick)
- 5 Thin first-year ice, second stage (50 to 70 cm thick)
- 6 Medium first-year ice (70 to 120 cm thick)
- 7 Ice predominantly thinner than 15 cm with some thicker ice
- 8 Ice predominantly 15 to 30 cm with some ice thicker than 30 cm
- 9 Ice predominantly thicker than 30 cm with some thinner ice
- / No information or unable to report

Note: If AB = 0, SB should be reported as /.

Table III

TB - Topography or form of ice

- 0 Pancake ice, ice cakes, brash ice—less than 20 m across
- 1 Small ice floes - 20 to 100 m across
- 2 Medium ice floes - 100 to 500 m across

Table III

- 3 Big ice floes - 500 to 2000 m across
- 4 Vast or giant ice floes - more than 2000 m across, or level ice
- 5 Rafted ice
- 6 Compacted slush or shuga, or compacted brash ice
- 7 Hummocked or ridged ice
- 8 Thaw holes or many puddles on the ice
- 9 Rotten ice
- / No information or unable to report

Notes: Figures 0 to 4 only to be used if ice concentration is less than 7/10 with no compacted ice present (TB = 4: vast floes). 4 to 9 to be used if ice concentration is greater 7/10 (TB = 4: level ice). If AB = 0, TB should be reported as /.

Table IV

KB - Navigation conditions in ice

- 0 Navigation unobstructed
- 1 Navigation difficult or dangerous for wooden vessels without ice sheathing
- 2 Navigation difficult for unstrengthened or low-powered vessels built of iron or steel; navigation for wooden vessels even with ice
- 3 Navigation without icebreaker assistance possible only for high-powered vessels of strong construction and suitable for navigation in ice
- 4 Navigation proceeds in lead or a broken ice-channel without the assistance of icebreaker
- 5 Icebreaker assistance can only be given to vessels suitable for navigation in ice and of special size
- 6 Icebreaker assistance can only be given to vessels of special ice class and of special size
- 7 Icebreaker assistance can only be given to vessels after special permission
- 8 Navigation temporarily closed
- 9 Navigation has ceased
- / Unknown

Baltic District Designators

Denmark

AA

- (1) Sea area N of Hammaren
- (2) Fairway to Ronne
- (3) Sea area between Ronne and Falsterbo
- (4) Sea area off Falsterbo Rev
- (5) Fairway through Drogden
- (6) Fairway to Kobenhavn

BB

- (1) Sea area W of Ven
- (2) Sea area E of Ven
- (3) Sea area off Helsingor
- (4) Sea area off Nakkehoved
- (5) Sea area S of Hesselo
- (6) Fairway to Isefjorden-Kynbyvaerkets

CC

- (1) Sea area off Mon lighthouse (Route T)
- (2) Sea area S of Gedser (Route T)
- (3) Sea area S of Rodby Havn (Route T)

## RADIO NAVIGATIONAL WARNINGS

- (4) Sea area SE of Keldsnor (Route T)
- (5) Sea area off Sprodsbjerg (Route T)
- (6) Sea area W of Omo (Route T)

### DD

- (1) Agerso Sund-Stignaes
- (2) Store Baelt channel, W part
- (3) Store Baelt, E part (Route T)
- (4) Sea area E of Romso (Route T)
- (5) Fairway to Kalundborg oil harbor
- (6) Sea area W of Rosnaes (Route T)

### EE

- (1) Sea area W of Sjaelland Rev (Route T)
- (2) Sea area W of Hesselo (Route T)
- (3) Sea area E of Anholt (Route T)
- (4) Sea area W of Fladen Lt (Route T)
- (5) Sea area NW of Kummelbanke (Route T)
- (6) Sea area N of Skagen (Route T)

### FF

- (1) S entrance to Lille Baelt, Skjoldnaes
- (2) Sea area off Helnaes
- (3) Fairway to Abenra-Enstedvaerket
- (4) Sea area off Assens
- (5) Kolding Yderfjord to the bridges
- (6) Fairway to Esbjerg

### GG

- (1) Fairway at Fredericia to the bridges
- (2) Sea area N of Aebelo
- (3) Fairway to Odense
- (4) Sea area at Vesborg lighthouse
- (5) Sea area S of Sletterhage
- (6) Fairway to Aarhus

### HH

- (1) Sea area off Fornaes
- (2) Fairway to Randers
- (3) Entrance at Hals Barre
- (4) Fairway to Aalborg
- (5) Sea area NW of Laeso
- (6) Sea area off Hirsholmene

### Finland

### AA

- (1) Roytta harbor
- (2) Roytta-Etukari
- (3) Etukari-Ristinmatala
- (4) Ajos harbor
- (5) Ajos-Ristinmatala
- (6) Ristinmatala-Nukkujanmatala
- (7) Nukkujanmatala-Kemi lighthouse
- (8) Sea area SW of Kemi lighthouse
- (9) Nukkujanmatala-Ulkokrunni

### BB

- (1) Virpiniemi-Ulkokrunni
- (2) Oulu harbor
- (3) Oulu-Kattilankalla
- (4) Kattilankalla-Oulu Lt 3
- (5) Oulu Lt 3-Oulu Lt 1
- (6) Sea area W of Oulu Lt 1
- (7) Open sea N of latitude of Marjaniemi

### CC

- (1) Raahe harbor and vicinity

- (2) Heikinkari-Raahe lighthouse
- (3) Raahe lighthouse-Nahkiainen
- (4) Open sea between latitudes of Marjaniemi and Ulkokalla

### DD

- (1) Rahja harbor
- (2) Rahja-Valimatala
- (3) Sea area from Valimatala to the line Ulkokalla-Ykskivi
- (4) Open sea between latitudes of Ulkokalla and Pietarsaari

### EE

- (1) Ykspihlaja harbor and vicinity
- (2) Repskaret-Kokkola lighthouse
- (3) Sea area off Kokkola lighthouse
- (4) Pietarsaari harbor and vicinity
- (5) Masskar-Kallan
- (6) Sea area off Kallan
- (7) Open sea between latitudes of Pietarsaari and Nordvalen

### FF

- (1) Sea area NE of Nordvalen
- (2) Sea area from Nordvalen to W of Norrskar
- (3) Vaskiluoto harbor
- (4) Vaskiluoto-Storhasten
- (5) Storhasten-Ensten
- (6) Ensten-Korso
- (7) Korsor-Norrskar
- (8) Fairway NW of Norra Glopsten-Skvattan
- (9) Sea area off Skvattan

### GG

- (1) Kaskinen harbor
- (2) Sea area off Salgrund
- (3) Sea area farther off Salgrund
- (4) Open sea N of latitude of Yttergrund

### HH

- (1) Tahkoluoto harbor
- (2) Mantyluoto harbor
- (3) Kallo-Kolmikulma
- (4) Sea area from Kolmikulma to the line
- (5) Sea area W of Sappi
- (6) Sea area beyond that visible from Sappi
- (7) Open sea between the latitudes of Yttergrund and Rauma

### II

- (1) Rauma harbor and vicinity
- (2) Valkeakari-Kylmapihlaja
- (3) Kylmapihlaja-Raumanmatala
- (4) Sea area W of Raumanmatala
- (5) Open sea S of latitude of Rauma

### JJ

- (1) Uusikaupunki harbor and vicinity
- (2) Kirsta-Isokari
- (3) Isokari-Sandback
- (4) Sea area off Sandback

### KK

- (1) Sea area off Salskar
- (2) Sea area N of Market
- (3) Sea area W of Market
- (4) Sea area S of Market

## RADIO NAVIGATIONAL WARNINGS

- LL
- (1) Maarianhamina harbor and vicinity
  - (2) Sea area off Kobbaklintar and Nyhamn
  - (3) The middle Åland Sea
  - (4) Sea area off Lagskar

- MM
- (1) Naantali harbor
  - (2) Naantali-Rajakari
  - (3) Turku harbor
  - (4) Turku-Rajakari
  - (5) Rajakari-Orhisaari
  - (6) Orhisaari-Lovskar

- NN
- (1) Lovskar-Korra
  - (2) Korra-Iso Hauteri
  - (3) Iso Hauteri-Isokari
  - (4) Lovskar-Berghamn
  - (5) Berghamn-Gustav Dalen
  - (6) Gustav Dalen-Stora Sottunga
  - (7) Stora Sottunga-Brandokobben
  - (8) Brandokobben-Ledskar
  - (9) Sea area off Rodhamn

- OO
- (1) Lovskar-Grisselborg
  - (2) Grisselborg-Norparskar
  - (3) Sea area at Vidskar
  - (4) Uto
  - (5) Sea area S of Uto
  - (6) Sea area beyond that visible from Uto
  - (7) Sea area near Bogskar
  - (8) Sea area S of Bogskar
  - (9) Sea area beyond that visible southward from Bogskar

- PP
- (1) Hanko harbor
  - (2) Sea area E of Russaro
  - (3) Sea area S of Russaro
  - (4) Sea area beyond that visible S from Russaro
  - (5) Hanko-Järngrännorna
  - (6) Järngrännorna-Uto

- QQ
- (1) Koverhar harbor and vicinity
  - (2) Hasto Buso-Langden
  - (3) Langden-Ajax
  - (4) Sea area S of Ajax
  - (5) Sea area S of Jussaro

- RR
- (1) Inkoo harbor and vicinity
  - (2) Kantvik harbor and vicinity
  - (3) Sea area at Porkkala
  - (4) Porkkala Ronnskar-Sommara
  - (5) Sea area off Sommaro
  - (6) Sea area farther off Sommaro

- SS
- (1) Helsinki harbor
  - (2) Suomenlinna-Harmaja
  - (3) Harmaja-Svartbaden
  - (4) Svartbaden-Helsinki lighthouse
  - (5) Helsinki lighthouse-sea area S of Porkkala

- (6) Archipelago fairway Helsinki-Porkkala Ronnskar

- TT
- (1) Porvoo harbor and vicinity
  - (2) The S point of Emsalo-Porvoo lighthouse
  - (3) Porvoo lighthouse-Kalbadagrund
  - (4) Sea area Kalbadagrund-Helsinki lighthouse
  - (5) Valkom harbor and vicinity
  - (6) Archipelago fairway Boisto-Glosholm
  - (7) Archipelago fairway Glosholm-Helsinki

- UU
- (1) Kotka harbor and vicinity
  - (2) Viikari-Boisto
  - (3) Boisto-Orrengrund
  - (4) Orrengrund-Tiiskeri
  - (5) Sea area Tiiskeri-Kalbadagrund
  - (6) Hamina harbor and vicinity
  - (7) Suurmusta-Merikari
  - (8) Merikari-Kaunissaari

### Germany

- AA
- (1) Stralsund to Palmer Ort
  - (2) Palmer Ort to Freesendorfer Haken
  - (3) Osttief
  - (4) Landtief fairway
  - (5) Sassnitz, port
  - (6) Sea area off Sassnitz
  - (7) Sea area off Arkona

- BB
- (1) Stralsund to Bessiner Haken
  - (2) Vierendehlrinne
  - (3) Barhoft to Gellenfahrwasser
  - (4) Sea area off Neuendorf

- CC
- (1) Rostock to Warnemünde
  - (2) Rostock, Seehafen
  - (3) Warnemünde, Seekanal
  - (4) Sea area off Warnemünde
  - (5) Rostock, sea area N of navigation buoy

- DD
- (1) Wismar to Walfisch
  - (2) Walfisch to Timmendorf
  - (3) Timmendorf to Wismar navigation buoy
  - (4) Lubeck to Travemünde
  - (5) Travemünde, harbor
  - (6) Sea area off Travemünde
  - (7) Sea area off Dahmeshoved

- EE
- (1) Holtenau to Laboe
  - (2) Sea area off Bulk
  - (3) Sea area NE of Kiel lighthouse
  - (4) Sea area off Westermarckeldorf
  - (5) Sea area off Marienleuchte
  - (6) E entrance of Fehmarnbelt

- FF
- (1) Flensburg to Holnis
  - (2) Holnis to Neukirchen
  - (3) Neukirchen to Kalkgrund
  - (4) Sea area off Falshoft

## RADIO NAVIGATIONAL WARNINGS

- |  |   |
|--|---|
| <p style="text-align: center;">GG</p> <p>(1) Holtenau, Kanalzufahrt</p> <p>(2) Kanal, Holtenau to Rendsburg</p> <p>(3) Kanal, Rendsburg to Brunsbittel</p> <p>(4) Brunsbittel, Kanalzufahrt</p> <p style="text-align: center;">HH</p> <p>(1) Hamburg-Landungsbrücken, Elbe</p> <p>(2) Stadersand (Elbe)</p> <p>(3) Brunsbittel (Elbe)</p> <p>(4) Cuxhaven to Neuwerk</p> <p>(5) Sea area off Elbe lightship</p> <p style="text-align: center;">II</p> <p>(1) Bremen (Weser)</p> <p>(2) Brake (Weser)</p> <p>(3) Bremerhaven (Weser)</p> <p>(4) Hohe Weg lighthouse, channel</p> <p>(5) Alte Weser, channel</p> <p>(6) Neue Weser, channel</p> <p style="text-align: center;">KK</p> <p>(1) Wilhelmshaven harbor entrance</p> <p>(2) Wilhelmshaven oil pier (Jade)</p> <p>(3) Schillig (Jade)</p> <p>(4) Wangerooge channel</p> <p style="text-align: center;">LL</p> <p>(1) Emden (Ems) and outer harbor</p> <p>(2) Emden to Randzelgat (Ems)</p> <p>(3) Borkum, Randzelgat (Ems)</p> <p>(4) Borkum, Westerems</p> <p style="text-align: center;">Netherlands</p> <p style="text-align: center;">AA</p> <p>(1) Delfzijl</p> <p>(2) Eemshaven</p> <p>(3) Eems; Oterdum-Eemshaven</p> <p>(4) Eems; Eemshaven-Hubertgat</p> <p style="text-align: center;">BB</p> <p>(1) Harlingen</p> <p>(2) Along Pollendam</p> <p>(3) Blauwe Slenk</p> <p>(4) Vlietstroom and Stortemelk</p> <p style="text-align: center;">CC</p> <p>(1) Den Helder</p> <p>(2) Texelstroom and Marsdiep</p> <p>(3) Schulpengat</p> <p style="text-align: center;">DD</p> <p>(1) Branch canal G and Zaandam harbors</p> <p>(2) Amsterdam E harbors</p> <p>(3) Amsterdam W harbors</p> <p>(4) Branch canal A (Beverwijk)</p> <p>(5) Nordseekanal</p> <p>(6) IJmuiden locks-fairway buoy</p> <p style="text-align: center;">EE</p> <p>(1) Nieuwe Maas and harbors</p> <p>(2) Botlek harbors</p> <p>(3) Europoort</p> <p>(4) Nieuwe Waterweg</p> <p>(5) Hoek van Holland-fairway buoy</p> <p style="text-align: center;">FF</p> <p>(1) Moerdijk</p> <p>(2) Moerdijk-Dordrecht</p> | <p>(3) Dordrecht</p> <p>(4) Oude Maas</p> <p>(5) Noord</p> <p style="text-align: center;">GG</p> <p>(1) Antwerpen harbors</p> <p>(2) Schelde: Antwerpen-Hansweert</p> <p>(3) Schelde: Hansweert-Vlissingen roads</p> <p>(4) Sloehaven</p> <p>(5) Oostgat</p> <p>(6) Wielingen</p> <p>(7) Terneuzen Canal-Gent</p> <p style="text-align: center;">Norway</p> <p style="text-align: center;">AA</p> <p>(1) Sekken (Halden)</p> <p>(2) Singlefjorden (Halden)</p> <p>(3) Svinesund-Halden</p> <p>(4) Torbjørnskjær light</p> <p>(5) Struten light</p> <p>(6) Loperen (Fredrikstad)</p> <p style="text-align: center;">BB</p> <p>(1) Osterelv (Fredrikstad)</p> <p>(2) Leira (Fredrikstad)</p> <p>(3) Vesterelv (Fredrikstad)</p> <p>(4) Rauoyfjord</p> <p>(5) Verlebukta-Moss</p> <p>(6) Mossesundet</p> <p style="text-align: center;">CC</p> <p>(1) Oslo-Steilene-Spro light</p> <p>(2) Spro light-Fagerstrand-Drobak</p> <p>(3) Drobak-Filtvet light</p> <p>(4) Filtvet light-Gullholmen light</p> <p>(5) Rodtangen- Svelvik</p> <p>(6) Svelvik-Steinsbraten light</p> <p>(7) Steinsbraten light-Drammen</p> <p>(8) Breiangeren (N of Horten)</p> <p style="text-align: center;">DD</p> <p>(1) Langgrunn (Horten)</p> <p>(2) Gullholmen light-Mefjordbaen</p> <p>(3) Mefjordbaen-Fulehuk light</p> <p>(4) Fulehuk light-Faerder light</p> <p>(5) W of Faerder light</p> <p>(6) S of Faerder</p> <p style="text-align: center;">EE</p> <p>(1) Torgersøygapet (Tonsberg)</p> <p>(2) Husøysund-Tonsberg channel</p> <p>(3) Tonsberg inner harbor</p> <p>(4) Vestfjord (Tonsberg)</p> <p>(5) Leistenslop</p> <p>(6) Vrengen</p> <p style="text-align: center;">FF</p> <p>(1) Tjomekjaela</p> <p>(2) Sandefjord</p> <p>(3) Inside Svenner light</p> <p>(4) Off Svenner light</p> <p>(5) Larviksfjorden (Stavern-Larvik)</p> <p>(6) Langesundsbukta</p> <p style="text-align: center;">GG</p> <p>(1) Brevikfjorden</p> <p>(2) Frierfjorden (Porsgrunn, Skien)</p> |
|--|---|

## RADIO NAVIGATIONAL WARNINGS

- (3) Jomfrulandsrenna
- (4) Off Jomfruland
- (5) Skatoysundet (Kragero)
- (6) Langarsund (Kragero)

HH

- (1) Kragerofjorden
- (2) Gronholmgapet (Risor)
- (3) Stangholmgapet (Risor)
- (4) Lyngorfjorden
- (5) Off Lyngor
- (6) Tvedestrandsfjord

II

- (1) Tromsoysundet (Arendal)
- (2) Galtesund (Arendal)
- (3) Inside Torungen light (Arendal)
- (4) Off Torungen light (Arendal)
- (5) Grimstad
- (6) Inside Homborsund light

JJ

- (1) Off Homborsund light
- (2) Lillesand
- (3) Kristiansandsfjorden
- (4) Off Iksoy light (Kristiansand)

Poland

AA

- (1) Sea area off Krynica Morska
- (2) Gdansk harbor
- (3) Gdansk, Port Polnocny, harbor
- (4) Sea area off Gdansk
- (5) Gdynia, harbor
- (6) Sea area off Gdynia
- (7) Sea area S of Hel
- (8) Sea area E of Hel
- (9) Sea area N of Hel

BB

- (1) Sea area off Rozewie
- (2) Ustka, harbor
- (3) Sea area off Ustka
- (4) Darlowo harbor
- (5) Sea off Darlowo
- (6) Kolobrzeg, harbor
- (7) Sea area off Kolobrzeg

CC

- (1) Zalew Szczecinski
- (2) Szczecin, harbor
- (3) Swinoujscie-Szczecin, fairway
- (4) Swinoujscie, harbor
- (5) Sea area off Swinoujscie

Sweden

AA

- (1) Karlsborg-Maloren
- (2) Sea area off Maloren
- (3) Lulea-Bjornklack
- (4) Bjornklack-Farstugrunden
- (5) Sea area off Farstugrunden
- (6) Lulea-Rodkallen
- (7) Rodkallen-Norstromsgrund

BB

- (1) Haraholmen-Nygran
- (2) Sea area off Nygran
- (3) Skelleftehamn-Gasoren
- (4) Sea area off Gasoren
- (5) Sea area off Bjuroklubb

CC

- (1) NE of Nordvalen
- (2) SW of Nordvalen
- (3) Vastra Kvarken (W of Holmoarne)
- (4) Umea-Vaktaren
- (5) SE of Vaktaren
- (6) Sea area NE and SE of Sydostbrotten

DD

- (1) Fairway to Husum
- (2) Ornskoldsvik-Hornskaten
- (3) Hornskaten-Skagsudde
- (4) Sea area off Skagsudde
- (5) Fairway W of Ulvoarna
- (6) Sea area off Ulvoarna

EE

- (1) Angermanalven above Sando bridge
- (2) Angermanalven below Sando bridge
- (3) Harnosand-Harnon
- (4) Sea area off Harnon
- (5) Sundsvall-Draghallan
- (6) Draghallan-Astholmsudde-Bramon
- (7) Sea area off Astholmsudde
- (8) Sea area off Bramon

FF

- (1) Hudiksvall-Saltvik
- (2) Saltvik-Ago
- (3) Sea area off Ago
- (4) Sandarne-Hallgrund
- (5) Sea area off Hallgrund
- (6) Ljusnefjarden-Storjungfrun
- (7) Sea area off Storjungfrun

GG

- (1) Gavle-Bonan
- (2) Bonan-Eggegrund
- (3) E of Eggegrund
- (4) Sea area off Orskar
- (5) Oregrundsgrepen
- (6) Sea area off Grundkallen

HH

- (1) Passage at Understen
- (2) Sea area off Svartklubben
- (3) Oregrund, Hallstavik-Svartklubben
- (4) Sea area off Simpnas
- (5) Sea area off Soderarm and Tjarven
- (6) Sea area off Svenska Hogarna

II

- (1) Stockholm-Tralhavet-Klovholmen
- (2) Tralhavet-Furusund-Kappelskar
- (3) Kappelskar-Soderarm
- (4) Klovholmen-Sandhamn
- (5) Sea area off Sandhamn and Ravengegrundet
- (6) Trollharan-Dalaro
- (7) Dalaro-Landsort
- (8) Fairway to Nynashamn
- (9) Sea area S of Landsort

## RADIO NAVIGATIONAL WARNINGS

### KK

- (1) Koping-Kvicksund
- (2) Vasteras-Gronso
- (3) Gronso-Sodertalje
- (4) Stockholm-Sodertalje
- (5) Sodertalje-Fifong
- (6) Fifong-Landsort

### LL

- (1) Norrkoping-Hargokalv
- (2) Hargokalv-Vinterklasen
- (3) Oxelosund-Vinterklasen
- (4) Vinterklasen-Havringe-Norra Krankan
- (5) Oxelosund steelworks-Lillhammaren-Norra Krankan
- (6) Norra Krankan-Gustafe Dalen

### MM

- (1) Sea area W of Gotska Sandon
- (2) Sea area off Visby
- (3) W of Stora Karlso
- (4) Sea area off Hoburg
- (5) Sea area off Mago (Slite)
- (6) Sea area off Faro

### NN

- (1) Vastervik-Marsholmen-Ido
- (2) Sea area off Ido
- (3) Oskarshamn-Furon
- (4) Furon-Olands Norra Udde
- (5) Sea area off Olands Norra Udde

### OO

- (1) Bla Jungfrun-Kalmar
- (2) Kalmar-Utgrunden
- (3) Utgrunden-SW of Olands Sodra Udde
- (4) Sea area SE of Olands Sodra Udde

### PP

- (1) Karlskrona-Aspo
- (2) Sea area off Aspo
- (3) Fairway to Karishamn
- (4) Sea area off Hano
- (5) Fairway to Ahus
- (6) Sea area off Sandhammaren
- (7) Fairway to Trelleborg
- (8) Sea area SE of Falsterbo Rev

### RR

- (1) Sea area N of Falsterbo Rev
- (2) Drogden
- (3) FlintraAnnan
- (4) Fairway to Malmo
- (5) The Sound between Malmo and Ven
- (6) The Sound E of Ven
- (7) The Sound off Halsingborg
- (8) N entrance to the Sound (W and S of Kullen)

### SS

- (1) Fairway to Halmstad (Bight of Laholm)
- (2) Fairway to Valberg
- (3) Sea area S and W off Nidingen
- (4) Knippelholmen-Botto
- (5) Vinga Sand and Danafjord
- (6) Buskar-Vinga
- (7) Buskar-Trubaduren
- (8) Sea area off Vinga and Trubaduren

### TT

- (1) Uddevalla-Stenungsund
- (2) Stenungsund-Astol
- (3) Astol-Hatteberget
- (4) Sea area off Pater Noster
- (5) Sea area off Maseskar
- (6) Brofjorden harbor-Dynabrott
- (7) Sea area off Dynabrott and Gaven
- (8) Kosterfjorden
- (9) Sea area off Nordkoster

### UU

- (1) Gota Alv
- (2) Trollhatte canal-Dalbo bridge
- (3) Vanersborgsviken
- (4) Fairway through Luro archipelago
- (5) Fairway to Gruvon
- (6) Fairway to Karlstad
- (7) Fairway to Kristinehamn
- (8) Fairway to Otterbacken
- (9) Fairway to Lidkoping

### Russia, Estonia, Latvia, and Lithuania

### AA

- (1) Sankt-Peterburg harbor
- (2) Sankt-Peterburg-Kotlin, fairway
- (3) Kotlin-Shepelevskiy, fairway
- (4) Shepelevskiy to Gulf of Vyborg, by way of Proliv B'yerke
- (5) Vyborg, Gulf and harbor
- (6) Meridian of Shepelevskiy-Narvskaya guba, fairway

### BB

- (1) Meridian of Narvskaya guba-meridian of Gogland, fairway
- (2) Meridian of Gogland-meridian of Loksa
- (3) Meridian of Loksa-meridian of Tallin, fairway
- (4) Meridian of Tallin-meridian of Ostrov Vormsisaar, fairway
- (5) Meridian of Ostrov Vormsisaar-meridian of Ristna, fairway
- (6) Meridian of Ristna-Irbenskiy prokhod, fairway

### CC

- (1) Irbenskiy prokhod, fairway
- (2) Irbenskiy prokhod-Mersrags, fairway
- (3) Mersrags-Riga harbor entrance, fairway
- (4) Riga harbor
- (5) Irbenskiy prokhod-Zaliv Pyarnu-lakht, fairway
- (6) Pyarnu, bight and harbor

### DD

- (1) Irbenskiy prokhod-Ventspils harbor entrance, fairway
- (2) Ventspils harbor
- (3) Ventspils-Liyepaya, fairway
- (4) Liyepaya-Klaipeda harbor entrance, fairway
- (5) Klaipeda harbor
- (6) Klaipeda, sea area SW

## RADIO NAVIGATIONAL WARNINGS

### 300L. Navigational Warning Station List

The stations in the following list broadcast navigational warnings, including ice information. Where these stations also provide weather and other miscellaneous information, those broadcast times and frequencies are included. Stations providing only weather information, however, are omitted. For information and schedules of marine weather broadcasts made primarily in English, refer to the Selected Worldwide Marine Weather Broadcasts (WWMARWETHRBC), a joint publication of the National Weather Service (NWS) and Naval Oceanography Command.

Broadcasts are in English unless otherwise indicated.

NOAA Weather Radio is a service providing specialized weather broadcasts for maritime users along the U.S. coastline, Great Lakes, Puerto Rico, the Virgin Islands, Guam and Saipan. It provides continuous broadcasts of the latest weather information directly from National Weather Service (NWS) offices. Taped weather messages are repeated every four to six minutes and are routinely revised every one to three hours, or more frequently if needed. During severe weather, NWS forecasters can interrupt the routine weather broadcasts and substitute special warning messages. NOAA Weather Radio broadcasts are received on one of seven VHF channels listed below. These channels are generally designated on marine VHF equipment as WX-1 through WX-7. These broadcasts usually can be received within 40 miles of the antenna site.

NOAA Weather Radio VHF Channels	
WX-1	162.550 MHz
WX-2	162.400 MHz
WX-3	162.475 MHz
WX-4	162.425 MHz
WX-5	162.450 MHz
WX-6	162.500 MHz
WX-7	162.525 MHz

A list of broadcast stations and frequencies may be obtained from the NOAA Weather Radio Website at:  
<http://www.nws.noaa.gov/nwr>

or from the NWS at the following address:

NATIONAL WEATHER SERVICE  
ATTN: W/OM12  
NOAA  
1325 EAST WEST HIGHWAY  
SILVER SPRING MD 20910

The NWS Marine Product Dissemination Information Homepage is internet accessible through the World Wide Web at:

<http://www.nws.noaa.gov/om/marine/home.htm>

Information available includes forecasts and warnings, up-to-date marine weather charts, including those broadcast by the Coast Guard over HF radiofacsimile, and the NOAA Weather Radio Guide.



## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
<b>GREENLAND</b>				
<b>3001.5</b>	<b>Qaqortoq (OXF).</b>	2129, 2225, 2265 kHz, J3E.	0035, 0335, 0635, 0935, 1235, 1535, 1835, 2135.	Local navigational warnings.
<b>3002</b>	<b>Ammassalik (OZL).</b>	2250, 3250 kHz, J3E.	0120, 0420, 0720, 1020, 1320, 1620, 1920, 2220.	Local navigational warnings.
<b>3003</b>	<b>Greenland Radio.</b>	570, 650, 720, 810, 900 kHz, A3E, 90.5, 92, 95, 95.2, 95.4, 95.5, 96, 96.25, 97, 98.5, 98.7 MHz, F3E.	2030 (Mon. - Fri.), 2100 (Sat., Sun.).	Local navigational warnings.
		570, 650, 720, 810, 900 kHz, A3E, 90.5, 92, 95, 95.2, 95.4, 95.5, 96, 96.25, 97, 98.5, 98.7 MHz, F3E.	0200, 1000, 1145, 1545, 2030 (Mon. - Sat.).	Weather.
		570, 650, 720, 810, 900 kHz, A3E, 90.5, 92, 95, 95.2, 95.4, 95.5, 96, 96.25, 97, 98.5, 98.7 MHz, F3E.	0200, 1100, 1500, 2100 (Sun., Hol.).	Weather.
<b>3005</b>	<b>Nuuk (Kook Island).</b>	518 kHz, F1B.	0340, 0740, 1140, 1540, 1940, 2340.	NAVTEX (W).
<b>3015</b>	<b>Aasiaat (OYR).</b>	2116, 2304, 2400, 3125, 3276, 3280 kHz, J3E.	0235, 0535, 0835, 1135, 1435, 1735, 2035, 2335.	Local navigational warnings.
<b>CANADA - ARCTIC AND ATLANTIC</b>				
<b>3017</b>	<b>Iqaluit, N.T. (VFF).</b>	2514, 6513 kHz, J3E.	0110, 1320, 1705.	Local navigational warnings, weather and ice (ice at 0110, 1705).
		2514, 2582, 4363 kHz, J3E.	1340, 1705, 2235.	Local navigational warnings, weather and ice (ice only at 1705).
		3251.1, 7708.1 kHz (USB), J3C.	1000, 2100.	Weather FAX; 120/576.
		3251.1, 7708.1 kHz (USB), J3C.	0500, 2125.	Ice FAX; 120/576.
		2582, 4363 kHz, J3E.	1240, 1705, 2310.	Local navigational warnings, weather and ice (ice only at 1705) (Resolute).
		3251.1, 7708.1 kHz (USB), J3C.	1100, 2330.	Weather FAX; 120/576 (Resolute).
		3251.1, 7708.1 kHz (USB), J3C.	0010, 0700.	Ice FAX; 120/576 (Resolute).
		490 kHz, F1B.	0310, 0710, 1110, 1510, 1910, 2310.	NAVTEX (S) in French.
		518 kHz, F1B.	0320, 0720, 1120, 1520, 1920, 2320.	NAVTEX (T).
NOTE: Station open during navigation season only, Jun. - Dec.				
<b>3018</b>	<b>Inuvik, N.W.T. (VFA).</b>	2558, 4363, 6218.6 kHz, J3E, Ch. 26, F3E.	0235, 1435.	Local navigational warnings and weather.
		4363, 5803 kHz, J3E, Ch. 26, F3E.	0115, 1315.	Local navigational warnings and weather.
		8457.8 kHz (USB), J3C.	0200, 1630.	Weather and ice FAX; 120/576.
NOTE: During navigation season only, May - Oct.				
<b>3019.5</b>	<b>Labrador, Labr. (VOK).</b>	2598 kHz, J3E.	0137, 1007, 1437, 2037.	Weather and ice.
		2598 kHz, J3E.	1107, 2307.	Local navigational warnings.
		Ch. 21B, 83B, F3E.	Continuous.	Local navigational warnings, weather and ice.
		518 kHz, F1B.	0350, 0750, 1150, 1550, 1950, 2350; 0910, 2110 (Jul. - Oct.).	NAVTEX (X).

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3020	St. Anthony, Nfld. (VCM).	2598 kHz, J3E.	0107, 0907, 1337, 1937.	Weather and ice (ice at 0107, 0907).
		2598 kHz, J3E.	1237, 1907.	Local navigational warnings and ice (ice at 1907).
		Ch. 21B, 83B, F3E.	Continuous.	Local navigational warnings, weather and ice.
3021	Port aux Basques, Nfld. (VOJ).	2598 kHz, J3E.	0207, 0807, 1507, 2107.	Weather and ice (ice at 0807).
		2598 kHz, J3E, Ch. 21B, 28B, 83B, F3E.	1207, 1837.	Local navigational warnings and ice (ice at 1837).
		Ch. 21B, 28B, 83B, F3E.	Continuous.	Local navigational warnings, weather and ice.
3023	St. John's, Nfld. (VON).	2598 kHz, J3E.	0007, 0837, 1637, 2207.	Weather and ice.
		2598 kHz, J3E.	1307, 2007.	Local navigational warnings.
		Ch. 21B, 28B, 83B, F3E.	Continuous.	Local navigational warnings, weather and ice.
		518 kHz, F1B.	0220, 0620, 1020, 1420, 1820, 2220.	NAVTEX (O).
3027.5	Placentia, Nfld. (VCP).	2598 kHz, J3E.	0048, 0737, 1607, 2137.	Weather and ice (ice at 0737, 2137).
		2598 kHz, J3E.	1137, 1807.	Local navigational warnings.
		Ch. 21B, 23B, 28B, 83B, F3E.	Continuous.	Local navigational warnings, weather and ice.
3032	Quebec, Que. (VCC).	Ch. 21B, 83B, F3E.	Continuous.	Local navigational warnings, weather and ice.
3036	Montreal, Que. (VFN).	Ch. 21B, 25B, 83B, F3E.	Continuous.	Local navigational warnings, weather and ice. (Seasonal operation May - Oct. on Ch. 83B.)
3038	Les Escoumins, Que. (VCF).	Ch. 21B, 83B, F3E.	Continuous.	Local navigational warnings, weather and ice.
3040	Riviere-au-Renard, Que. (VCG).	2598, 2749 kHz, J3E.	0937, 1737.	Local navigational warnings and ice.
		2598, 2749 kHz, J3E.	0437, 0847, 1407, 2317.	Weather.
		Ch. 21B, 25B, 83B, F3E.	Continuous.	Local navigational warnings, weather and ice.
		518 kHz, F1B.	0020, 0420, 0820, 1220, 1620, 2020.	NAVTEX (C).
		518 kHz, F1B.	0035, 0435, 0835, 1235, 1635, 2035.	NAVTEX (D) in French.
3042	Sydney, N.S. (VCO).	2749 kHz, J3E, Ch. 21B, 83B, F3E.	1510, 2140.	Local navigational warnings.
		2749 kHz, J3E.	0040, 0740, 1440, 2110.	Weather.
		Ch. 21B, 83B, F3E.	Continuous.	Local navigational warnings, weather and ice.
		4416 kHz, J3C.	1121, 1142, 1741.	Ice FAX; 120/576.
		6915.1 kHz, J3C.	2200, 2331.	Ice FAX; 120/576.
		518 kHz, F1B.	0240, 0640, 1040, 1440, 1840, 2240.	NAVTEX (Q).
		518 kHz, F1B.	0255, 0655, 1055, 1455, 1855, 2255.	NAVTEX (J) in French.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3045	Halifax, N.S. (VCS) (CFH).	2749 kHz, J3E, Ch. 21B, 83B, F3E.	1310, 1910.	Local navigational warnings.
		2749 kHz, J3E.	0110, 0810, 1540, 2010.	Weather.
		Ch. 21B, 83B, F3E.	0240, 0840.	Local navigational warnings.
		Ch. 21B, 83B, F3E.	Continuous.	Weather.
		122.5, 4271, 6496.4, 10536, 13510 kHz, F3C.	Continuous.	Weather FAX*; 120/576.
		122.5, 4271, 6496.4, 10536, 13510 kHz, F3C.	0001, 2222, 2301.	Ice FAX*; 120/576.
*NOTE: CFH broadcast schedule at 1101.				
3047	Saint John, N.B. (VAR).	2749 kHz, J3E, Ch. 21B, 83B, F3E.	0140, 1040, 1640, 2040.	Weather.
		2749 kHz, J3E, Ch. 21B, 83B, F3E.	0140, 1240, 1640, 1940.	Local navigational warnings.
		Ch. 21B, 83B, F3E.	Continuous.	Weather.
		518 kHz, F1B.	0320, 0720, 1120, 1520, 1920, 2320.	NAVTEX (U).
		518 kHz, F1B.	0335, 0735, 1135, 1535, 1935, 2335.	NAVTEX (V) in French.
ST. PIERRE AND MIQUELON				
3050	St. Pierre Radio.	1375 kHz, A3E.	1050, 1130, 1515, 2150.	Weather in French.
UNITED STATES AND CANADA - LAKES				
3068	Wiaraton, Ont.	518 kHz, F1B.	0110, 0510, 0910, 1310, 1710, 2110.	NAVTEX (H).
3069	Prescott, Ont. (VBR).	Ch. 21B, 83B, F3E.	Continuous.	Local navigational warnings, weather and ice.
		Ch. 23B, 28B, F3E.	Continuous.	Local navigational warnings, weather and ice in French.
3070	Sarnia, Ont. (VBE).	Ch. 21B, 83B, F3E.	Continuous.	Local navigational warnings, weather and ice.
LOCAL WARNINGS: Local Notice to Mariners: Original reports to nearest Coast Guard station for relay to District Commander (oan).				
3074	Sault St. Marie, MI (NOG) U.S. Coast Guard.	Ch. 22A, F3E.	0005, 1205.	Local Notice to Mariners and weather.
3076	Buffalo, NY (NMD-47) U.S. Coast Guard.	Ch. 22A, F3E.	0255, 1455.	Local Notice to Mariners and weather.
3077	Detroit, MI (NMD-25) U.S. Coast Guard.	Ch. 22A, F3E.	0135, 1335.	Local Notice to Mariners and weather.
3078	Grand Haven, MI (NMD-32) U.S. Coast Guard.	Ch. 22A, F3E.	0235, 1435.	Local Notice to Mariners and weather.
3079	Milwaukee, WI (NMP-9) U.S. Coast Guard.	Ch. 22A, F3E.	0255, 1455.	Local Notice to Mariners and weather.
3080	Thunder Bay, Ont. (VBA).	2582 kHz, J3E, Ch. 26, F3E.	0040, 1410, 1520.	Local navigational warnings, weather and ice.
		Ch. 19, 26, F3E.	0030, 1000, 1130, 1330, 1730, 2230.	Local navigational warnings and weather.
		Ch. 21B, 83B, F3E.	Continuous.	Local navigational warnings and weather.
		518 kHz, F1B.	0230, 0630, 1030, 1430, 1830, 2230.	NAVTEX (P).

# RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
<b>UNITED STATES - ATLANTIC AND GULF</b>				
LONG-RANGE WARNINGS: NAVAREA IV: Original reports to NAVAREA IV Coordinator, National Imagery and Mapping Agency, Attn: PTNM (Mail stop D-44). HYDROLANT: Original reports to National Imagery and Mapping Agency. LOCAL WARNINGS: Local Notice to Mariners: Original reports to nearest Coast Guard Station for relay to District Commander (oan).				
3083	Southwest Harbor, ME (NMF-44) U.S. Coast Guard.	2670 kHz, J3E, Ch. 22A, F3E.	1135, 2335.	Local Notice to Mariners and weather.
3084	Portland, ME (NMF-31) U.S. Coast Guard.	2670 kHz, J3E, Ch. 22A, F3E.	1105, 2305.	Local Notice to Mariners and weather.
3086	Boston, MA (NMF) (NIK) (NMF-7) U.S. Coast Guard.	6314, 8416.5, 12579 kHz, F1B.	0030.	Ice (seasonal).
		6314, 8416.5, 12579 kHz, F1B.	0140.	Maritime Safety Information (MSI) (HF NBDP) (NAVAREA IV, HYDROLANT and weather).
		8416.5, 12579, 16806.5 kHz, F1B.	1218.	Ice (seasonal).
		8416.5, 12579, 16806.5 kHz, F1B.	1630.	Maritime Safety Information (MSI) (HF NBDP) (NAVAREA IV, HYDROLANT and weather).
		4235 kHz, F3C.	0230, 0745.	Weather FAX*; 120/576.
		6340.5, 9110 kHz, F3C.	0230, 0745, 1400, 1720, 1900.	Weather FAX*; 120/576.
		12750 kHz, F3C.	1400, 1900.	Weather FAX*; 120/576.
		6340.5, 9110, 12750 kHz, F3C.	1600, 1810.	Ice FAX; 120/576 (Feb. - Aug.).
		2670 kHz, J3E, Ch. 22A, F3E.	1035, 2235.	Local Notice to Mariners and weather.
		518 kHz, F1B.	0045, 0445, 0845, 1245, 1645, 2045.	NAVTEX (F).
*NOTE: Broadcast schedule at 0243, 1405.				
3087	Woods Hole, MA (NMF-2) U.S. Coast Guard.	2670 kHz, J3E.	0440, 1640.	Local Notice to Mariners and weather.
		Ch. 22A, F3E.	1005, 2205.	Local Notice to Mariners and weather.
3088.5	Long Island Sound, CT (NMY-15) U.S. Coast Guard.	Ch. 22A, F3E.	1120, 2320.	Local Notice to Mariners and weather.
3088.6	Moriches, NY (NMY-42) U.S. Coast Guard.	2670 kHz, J3E, Ch. 22A, F3E.	0010, 1210.	Local Notice to Mariners and weather.
3088.7	New York, NY (NMY-3) U.S. Coast Guard.	Ch. 22A, F3E.	1050, 2250.	Local Notice to Mariners and weather.
3090.7	Atlantic City, NJ (NMK-2) U.S. Coast Guard.	2670 kHz, J3E, Ch. 22A, F3E.	1103, 2303.	Local Notice to Mariners and weather.
3092	Baltimore, MD (NMX) U.S. Coast Guard.	Ch. 22A, F3E.	0130, 1205.	Local Notice to Mariners and weather.
3093	Chincoteague, VA (NMN-70) U.S. Coast Guard.	2670 kHz, J3E.	0233, 1403.	Local Notice to Mariners and weather.
		Ch. 22A, F3E.	0200, 1145.	Local Notice to Mariners and weather.
3096	Chesapeake, VA (NMN) (NMN-80) U.S. Coast Guard.	4426, 6501, 8764, kHz, J3E.	0330, 0500, 0930.	Maritime Safety Information (MSI).
		6501, 8764, 13089 kHz, J3E.	1130, 1600, 2200, 2330.	Maritime Safety Information (MSI).
		8764, 13089, 17314 kHz, J3E.	1730.	Maritime Safety Information (MSI).
		2670 kHz, J3E.	0203, 1333.	Local Notice to Mariners and weather.
		Ch. 22A, F3E.	0230, 1120.	Local Notice to Mariners and weather.
		518 kHz, F1B.	0130, 0530, 0930, 1330, 1730, 2130.	NAVTEX (N).

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3099	Cape Hatteras, NC (NMN-13) U.S. Coast Guard.	2670 kHz, J3E.	0133, 1303.	Local Notice to Mariners and weather.
		Ch. 22A, F3E.	0100, 1055.	Local Notice to Mariners and weather.
3099.5	Fort Macon, NC (NMN-37) U.S. Coast Guard.	2670 kHz, J3E, Ch. 22A, F3E..	0103, 1233.	Local Notice to Mariners and weather.
3100	Charleston, SC (NMB) U.S. Coast Guard.	2670 kHz, J3E.	0420, 1620.	Local Notice to Mariners and weather.
		Ch. 22A, F3E.	1200, 2200.	Local Notice to Mariners and weather.
3101	Savannah, GA (NMN) U.S. Coast Guard.	518 kHz, F1B.	0040, 0440, 0840, 1240, 1640, 2040.	NAVTEX (E).
3102	Mayport, FL (NMV) U.S. Coast Guard.	2670 kHz, J3E.	0620, 1820.	Local Notice to Mariners and weather.
		Ch. 22A, F3E.	1215, 2215.	Local Notice to Mariners and weather.
3104	Miami, FL (NMA) (NCF) U.S. Coast Guard.	2670 kHz, J3E.	0350, 1550.	Local Notice to Mariners and weather.
		Ch. 22A, F3E.	1230, 2230.	Local Notice to Mariners and weather.
		518 kHz, F1B.	0000, 0400, 0800, 1200, 1600, 2000.	NAVTEX (A).
3106	Key West, FL (NOK) U.S. Coast Guard.	Ch. 22A, F3E.	1200, 2200.	Local Notice to Mariners and weather.
3107.8	St. Petersburg, FL (NME) U.S. Coast Guard.	2670 kHz, J3E.	0320, 1420.	Local Notice to Mariners and weather.
		Ch. 22A, F3E.	1300, 2300.	Local Notice to Mariners and weather.
3108	New Orleans, LA (NMG) (NMG-2) U.S. Coast Guard.	2670 kHz, J3E.	0550.	Local Notice to Mariners and weather.
		2670 kHz, J3E, Ch. 22A, F3E.	1035, 1235, 1635, 2235.	Local Notice to Mariners and weather.
		4316, 8502, 12788 kHz, J3E.	0330, 0500, 0930, 1130, 1600, 1730, 2200, 2330.	Local Notice to Mariners and weather.
		4317.9, 8503.9, 12789.9 kHz, F3C.	0000, 0600, 1200, 1800.	Weather FAX*; 120/576.
		518 kHz, F1B.	0300, 0700, 1100, 1500, 1900, 2300.	NAVTEX (G).
*NOTE: Broadcast schedule at 2025.				
3111	Mobile, AL (NOQ) U.S. Coast Guard.	2670 kHz, J3E, Ch. 22A, F3E.	1020, 1220, 1620, 2220.	Local Notice to Mariners and weather.
3112	Galveston, TX (NOY) U.S. Coast Guard.	2670 kHz, J3E, Ch. 22A, F3E.	1050, 1250, 1650, 2250.	Local Notice to Mariners and weather.
3116	Corpus Christi, TX (NOY-8) U.S. Coast Guard.	2670 kHz, J3E, Ch. 22A, F3E.	1040, 1240, 1640, 2240.	Local Notice to Mariners and weather.
<b>MEXICO</b>				
3118	Veracruz (XFU).	451 kHz, A1A.	0300, 1600, 2100.	Local navigational warnings.
		8656 kHz, A1A.	1600, 2100.	Local navigational warnings.
		451, 8656 kHz, A1A.	0400, 1600, 2100.	Weather.
<b>CUBA</b>				
3119	Santiago de Cuba (CLM).	482 kHz, A1A.	1903.	Local navigational warnings in Spanish.
		2760 kHz, J3E.	2340.	Local navigational warnings in Spanish.
3120	Arroyos de Mantua (CLF-2).	2760 kHz, J3E.	2350.	Local navigational warnings in Spanish.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3121	Cienfuegos (CLC).	460 kHz, A1A.	1903.	Local navigational warnings in Spanish.
		2760 kHz, J3E.	2305.	Local navigational warnings in Spanish.
3122	Nuevitas (CLK).	446 kHz, A1A.	1903.	Local navigational warnings in Spanish.
		2760 kHz, J3E.	2320.	Local navigational warnings in Spanish.
3131	Habana (CLA) (CLT).	476 kHz, A1A.	1903.	Local navigational warnings in Spanish.
		2760 kHz, H3E, J3E.	2310.	Local navigational warnings in Spanish.
		2760 kHz, H3E, J3E.	0105, 1305, 2005, 2205.	Weather in Spanish.
		476 kHz, A1A.	0150, 1350, 1750, 2150.	Military exercise warnings.
		2760 kHz, H3E, J3E.	0403, 1003, 1603, 2203.	Military exercise warnings in Spanish.
3133	Nueva Gerona (CLT-3).	2760 kHz, J3E.	1500.	Local navigational warnings in Spanish.
BERMUDA				
3135	Bermuda Harbor (ZBM).	2582 kHz, J3E, Ch. 27, F3E.	0035, 0435, 0835, 1235, 1635, 2035.	Local navigational warnings.
		2582 kHz, J3E, Ch. 27, F3E.	1235, 2035.	Weather.
		162.4 MHz (WX2)(Ch. 38), J3E.	Continuous.	Weather.
		Ch. 07, F3E.	1300.	Local navigational warnings and weather.
		518 kHz, F1B.	0010, 0410, 0810, 1210, 1610, 2010.	NAVTEX (B).
JAMAICA				
3135.5	Jamaica Coast Guard (6YX).	2738 kHz, A3E, Ch. 13, F3E.	1330, 1830.	Local navigational warnings and weather.
		Ch. 13, F3E.	0130, 1430, 1930.	Weather.
PUERTO RICO				
3138	San Juan, PR (NMR) (NMR-1) U.S. Coast Guard.	2670 kHz, J3E.	0305, 1505.	Local Notice to Mariners and weather.
		Ch. 22A, F3E.	1210, 2210.	Local Notice to Mariners and weather.
		518 kHz, F1B.	0200, 0600, 1000, 1400, 1800, 2200.	NAVTEX (R).
MARTINIQUE				
3140	Fort de France (CROSSAG) (MRCC).	Ch. 79, F3E; Ch. 80, F3E.	0020, 0040, 1450, 1510; 0030, 0050, 1500, 1520.	Local navigational warnings and weather in French for Martinique, St. Lucia and Dominica.
		Ch. 79, F3E; Ch. 80, F3E; Ch. 64, F3E.	1530, 2300; 1540, 1600, 2310, 2330; 1550, 2320.	Gunfire warnings and weather in French for Guadeloupe.
		Ch. 64, F3E.	0000, 1630.	Local navigational warnings and weather in French for St. Martin and Antigua.
		2545 kHz, J3E.	1215, 2133.	Weather in French.
		2545 kHz, J3E.	Every even hour.	Weather.
		Ch. 64, 79, 80, F3E.	Every hour.	Weather.
		Ch. 79, F3E; Ch. 80, F3E;	1120, 1140, 2220, 2240; 1130, 1150, 2230, 2250.	Weather in French for Martinique, St. Lucia and Dominica.
		Ch. 79, F3E; Ch. 80, F3E; Ch. 64, F3E.	0100, 1200; 0110, 0130, 1210, 1230; 0120, 1220.	Weather in French for Guadeloupe.
		Ch. 64, F3E.	0200, 1300.	Weather in French for St. Martin and Antigua.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
TRINIDAD AND TOBAGO				
3143	North Post (9YL) (Trinidad).	2735, 3165 kHz, J3E.	1250, 1850.	Local navigational warnings (weather on 3165 kHz).
		8441 kHz, A1A.	0100, 0600, 0900, 1300, 1500, 1730, 2130.	Weather.
		17184.8 kHz, A1A.	1200, 1530.	Weather.
		12885 kHz, A1A.	1330, 2050.	Weather.
		Ch. 24, 25, 26, 27, F3E.	1340, 2040.	Weather.
		6470.5 kHz, A1A.	2300.	Weather.
NETHERLANDS ANTILLES				
3145	Curacao (PJC).	518 kHz, F1B.	0110, 0510, 0910, 1310, 1710, 2110.	NAVTEX (H).
BRAZIL				
LONG-RANGE WARNINGS: NAVAREA V: Includes the waters west of 20°W between 7°N and 35°S, subdivided into the following areas: North Coast, East Coast and South Coast. Navigational aids are referred to by International numbers; the term "number of order" refers to Brazilian Light List numbers. Original reports are addressed "NAVEMAR" and handled by Brazilian government stations without charge.				
3150	Belem (PPL).	4321 kHz, A1A.	0600.	Local navigational warnings in Portuguese, NAVAREA V.
		8462 kHz, A1A.	1800.	Local navigational warnings in Portuguese, NAVAREA V.
		8462 kHz, A1A.	1000.	Weather.
		4321 kHz, A1A.	2200.	Weather.
		4369 kHz, J3E.	0103, 0603, 1003, 1203, 1503, 2103.	Local navigational warnings and weather in Portuguese, NAVAREA V.
3151	Belem Radio Liberal (ZYI-533).	1330 kHz.	0100, 0900, 1700.	Local navigational warnings.
3152	Belem Radio Marajoara (ZYI-531).	1130 kHz.	0200, 0930, 1800.	Local navigational warnings.
3153	Ponta do Ceu.	Ch. 16, F3E.	0000, 1200, 1800.	Local navigational warnings.
3154	Radio Nacional de Macapa (ZYH-222).	630 kHz.	1100, 1600, 2130.	Local navigational warnings.
3157	Olinda (PPO).	4321 kHz, A1A.	0200.	Local navigational warnings in Portuguese, NAVAREA V.
		8462 kHz, A1A.	1400.	Local navigational warnings in Portuguese, NAVAREA V.
		8294 kHz, F3C.	0745-0830, 1745-1830.	Weather FAX; 120/576
		4321 kHz, A1A.	0430.	Weather.
		8462 kHz, A1A.	1630.	Weather.
		4369 kHz, J3E.	0103, 0603, 1003, 1203, 1503, 2103.	Local navigational warnings and weather in Portuguese, NAVAREA V.
3161	Rio de Janeiro Naval (PWZ-33).	4289, 6435, 8550, 12795, 17160, 22530 kHz, A1A.	0500, 1330, 2230.	NAVAREA V and local navigational warnings.
		4289, 6435, 8550, 12795, 17160, 22530 kHz, F1B.	0400, 1230, 2130.	NAVAREA V and local navigational warnings.
		12660, 17140 kHz, F3C.	0745-0830, 1745-1830.	Weather FAX; 120/576.
		4289, 6435, 8550, 12795, 17160, 22530 kHz, A1A.	0215, 0945, 1945.	Weather.
		4289, 6435, 8550, 12795, 17160, 22530 kHz, F1B.	0115, 0845, 1845.	Weather.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3166	Juncao (PPJ).	4321 kHz, A1A.	0800.	Local navigational warnings in Portuguese, NAVAREA V.
		8462 kHz, A1A.	2000.	Local navigational warnings in Portuguese, NAVAREA V.
		4321 kHz, A1A.	0000.	Weather.
		8462 kHz, A1A.	1200.	Weather.
		4381 kHz, J3E.	0103, 0603, 1003, 1203, 1503, 2103.	Local navigational warnings and weather in Portuguese, NAVAREA V.
URUGUAY				
3168	La Paloma (CWC-30).	2721.5, 4143.6, 6218.6 kHz, J3E, Ch. 15, F3E.	0303, 1533, 2303.	Local navigational warnings and weather in Spanish.
		490 kHz, F1B.	0000, 0400, 0800, 1200, 1600, 2000.	NAVTEX (A) in Spanish.
		518 kHz, F1B.	0050, 0450, 0850, 1250, 1650, 2050.	NAVTEX (F).
3169	Punta del Este (CWC-34).	2721.5 kHz, J3E, Ch. 15, F3E.	0133, 1503, 2133.	Local navigational warnings and weather in Spanish.
3170	Cerrito (Punta Carretas) (CWA) (CWF).	421.5 kHz, A1A, A2A, 4346, 8602, 12750, 16781.3, 22312.5 kHz, A1A.	0000, 1400, 1900.	Local navigational warnings and weather in Spanish.
		2768.5 kHz, H3E, J3E, R3E.	0010, 1410, 1910.	Local navigational warnings and weather in Spanish.
		4357.4, 6518.8, 8291.1, 13128.7, 17260.8, 22636.3 kHz, J3E, R3E.	0003, 1403, 1903.	Local navigational warnings and weather in Spanish.
3172	Montevideo Armada (CWM).	4280 kHz, A1A, 6376 kHz, A2A.	0100, 1130, 1800.	Local navigational warnings and weather in Spanish.
3176.1	Montevideo Trouville (CWC-39).	2721.5, 4143.6, 6218.6 kHz, J3E, Ch. 15, F3E.	0103, 1133, 1903.	Local navigational warnings and weather in Spanish.
3177	Colonia (CWC-23).	2721.5 kHz, J3E, Ch. 15, F3E.	0330, 1330, 2100.	Local navigational warnings and weather in Spanish.
ARGENTINA				
LONG-RANGE WARNINGS: NAVAREA VI: Includes the waters between the coast of Argentina and 20°W between 35°50'S and Antarctica. Original reports to NAVAREA VI Coordinator, Hidrografia Naval, Buenos Aires.				
3182	Buenos Aires (L2B) (L2C) (L2G).	4239.5, 8528, 12901 kHz, A1A.	0030, 1530, 2130.	NAVAREA VI.
		4239.5, 8528, 12901 kHz, A1A.	1230.	Local navigational warnings and weather in Spanish.
		437, 12901 kHz, A1A.	2330.	Local navigational warnings in Spanish.
		437, 4239.5, 8528, 12901 kHz, A1A.	0130.	Weather in Spanish.
		Ch. 14, F3E.	0010, 0410, 0810, 1210, 1610, 2010.	Local navigational warnings and weather in Spanish.
		518 kHz, F1B.	0250, 0650, 1050, 1450, 1850, 2250.	NAVTEX (R).
3184	Mar del Plata (L2T) (L2U).	2065, 6224 kHz, J3E.	0315, 1315, 2115.	Weather in Spanish.
		2065, 6224 kHz, J3E.	1315, 2215.	Local navigational warnings in Spanish.
		Ch. 14, F3E.	0230, 0530, 1130, 1730, 2330.	Local navigational warnings and weather in Spanish.
		518 kHz, F1B.	0240, 0640, 1040, 1440, 1840, 2240.	NAVTEX (Q).
3186	Recalada Rio de la Plata (L3Z).	Ch. 15, F3E.	0010, 0410, 0810, 1210, 1610, 2010.	Local navigational warnings and weather in Spanish.



## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3191	Quequen (L5B).	Ch. 14, F3E.	0010, 0410, 0810, 1210, 1610, 2010.	Local navigational warnings and weather in Spanish.
3192	Bahia Blanca (L2N).	Ch. 14, F3E.	0010, 0410, 0810, 1210, 1610, 2010.	Local navigational warnings and weather in Spanish.
		518 kHz, F1B.	0230, 0630, 1030, 1430, 1830, 2230.	NAVTEX (P).
3193	Puerto Madryn (L4S).	Ch. 15, F3E.	0010, 0410, 0810, 1210, 1610, 2010.	Local navigational warnings and weather in Spanish.
3196	Comodoro Rivadavia (L2Y) (L2Z) (L3A) (L3B).	437, 4239.5 kHz, A1A.	1230, 2200.	Local navigational warnings (weather at 2200) in Spanish.
		2065, 6224 kHz, J3E.	1035, 1450.	Local navigational warnings in Spanish.
		2065 kHz, J3E.	0750, 1950.	Weather in Spanish.
		Ch. 14, F3E.	0350, 0750, 1050, 1650, 2250.	Local navigational warnings and weather in Spanish.
		4210 kHz, F1B.	0530, 2300.	Maritime Safety Information (MSI) (HF NBDP) (Local navigational warnings and weather).
		8416.5, 12579 kHz, F1B.	0530, 1300, 1830, 2300.	Maritime Safety Information (MSI) (HF NBDP) (Local navigational warnings and weather).
		19680.5 kHz, F1B.	1300, 1830.	Maritime Safety Information (MSI) (HF NBDP) (Local navigational warnings and weather).
		518 kHz, F1B.	0220, 0620, 1020, 1420, 1820, 2220.	NAVTEX (O).
3204	Rio Gallegos (L3I).	Ch. 14, F3E.	0010, 0410, 0810, 1210, 1610, 2010.	Local navigational warnings and weather in Spanish.
		518 kHz, F1B.	0210, 0610, 1010, 1410, 1810, 2210.	NAVTEX (N).
3208	Ushuaia (L3P).	Ch. 14, F3E.	0010, 0410, 0810, 1210, 1610, 2010.	Local navigational warnings and weather in Spanish.
		518 kHz, F1B.	0200, 0600, 1000, 1400, 1800, 2200.	NAVTEX (M).
<b>ANTARCTICA</b>				
3210	Molodezhnaya.	6785, 9280, 15830, 17660, 18490 kHz, A3C.	0910, 0930, 1215, 1235, 1730, 2330.	Ice FAX; 28, 120/576.
3211	Palmer Station (KWB-268).	4553 kHz, F1B.	0100.	Ice.
		13553 kHz, F1B.	1500.	Ice.
		10235 kHz, F1B.	2000.	Ice.
<b>ICELAND</b>				
3212	Reykjavik (TFA).	438 kHz, A1A.	0530, 1130, 1730, 2330.	Local navigational warnings, weather and ice.
		1650 kHz, A3E.	0430.	Local navigational warnings, weather and ice in Icelandic.
		1876 kHz, J3E.	0533, 1133, 1733, 2333.	Weather.
		518 kHz, F1B.	0250, 0650, 1050, 1450, 1850, 2250.	NAVTEX (R).
		518 kHz, F1B.	0350, 0750, 1150, 1550, 1950, 2350.	NAVTEX (X) (East Coast Greenland broadcast for Denmark).
3212.5	Icelandic State Broadcasting Service.	209, 666, 738 kHz, A3E.	1010, 1245, 1615, 1845, 2215.	Ice in Icelandic.
		209 kHz, A3E.	0100.	Weather and ice in Icelandic.
		209, 666, 738 kHz, A3E.	0645, 0815, 1010, 1615, 1845, 2215.	Weather in Icelandic.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
JAN MAYEN				
3214	Jan Mayen (LMJ).	1743 kHz, J3E.	2100.	Local navigational warnings.
		1743 kHz, J3E, Ch. 60, F3E.	0905, 2005.	Weather and ice.
FAROE ISLANDS				
3215	Torshavn (OXJ).	512.5 kHz, A1A.	Every odd hour +50m.	Local navigational warnings and weather.
		1641 kHz, A3E, Ch. 23, 24, 25, 26, F3E.	Every even hour +35m.	Local navigational warnings and weather.
BJORNOYA				
3216	Bjornoya (LJB).	1722 kHz, J3E, Ch. 66, F3E.	On request.	Local navigational warnings, weather and ice.
SVALBARD				
3218	Svalbard (LGS).	1731 kHz, J3E, Ch. 25, 26, 27, F3E.	On request.	Weather and ice.
		518 kHz, F1B.	0000, 0400, 0800, 1200, 1600, 2000.	NAVTEX (A).
RUSSIA - NORTHERN COASTS				
	LONG-RANGE WARNINGS: NAVIP: World-wide navigational warnings. LOCAL WARNINGS: PRIP.			
3224	Murmansk (UHS) (UDK) (UDK2).	4307, 6331.5, 12661.5 kHz, A1A, F1B.	0630, 1700.	PRIP warnings in Russian (selected coastal warnings are repeated in English).
		4307, 6331.5, 12661.5 kHz, A1A, F1B.	0630, 1700.	Weather and ice in Russian.
		521.5, 3740, 6393.5 kHz, A1A, F1B.	0400, 1730.	PRIP warnings.
		521.5, 3740, 6393.5 kHz, A1A, F1B.	0420, 1740.	Weather in Russian.
		2666 kHz, J3E.	0533, 1733.	Weather and ice in Russian.
		6446, 7907, 8444 kHz, F3C.	0700, 0800, 1400, 1430, 2000.	Weather and ice FAX*; 120/576.
		518 kHz, F1B.	0020, 0420, 0820, 1220, 1620, 2020.	NAVTEX (C).
*NOTE: Broadcast schedule at 1850 (RPM/IOC: 90/576).				
3226	Arkhangel'sk (UGE).	2595 kHz, J3E.	0630, 1830.	Weather and ice (ice at 1830) in Russian.
		4545 kHz, F3C.	0125, 1625, 1925, 2225.	Weather FAX; 60/576.
		5345, 7760 kHz, F3C.	0125, 0425, 0725, 1025, 1325, 1625, 1925, 2225.	Weather FAX; 60/576.
		4545, 5345, 7760 kHz, F3C.	1715.	Ice FAX*; 60/576.
		518 kHz, F1B.	0050, 0450, 0850, 1250, 1650, 2050.	NAVTEX (F).
*NOTE: 15 Jan. - 10 May.				
3230	Dikson (UCI).	428.6 kHz, A1A.	0818, 2018.	PRIP warnings in Russian (selected coastal warnings are repeated in English).
		428.6 kHz, A1A.	0530, 1630.	Weather in Russian.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3232	Amderma (UPM).	344.8 kHz, A1A.	0818, 1218, 2018.	Local navigational warnings in Russian (selected warnings are repeated in English).
		344.8 kHz, A1A.	0500, 1600.	Weather in Russian.
		4270 kHz, F3C.	0130, 0430, 0730, 0900, 1030, 1200, 1330, 1630, 1930, 2230.	Weather FAX; 90/576
		4270, 6380 kHz, F3C.	0300, 1830.	Ice FAX; 90/576.
		6380 kHz, F3C.	0130, 1930, 2230.	Weather FAX; 90/576
		8463 kHz, F3C.	0430, 0730, 0900, 1030, 1200, 1330, 1630.	Weather FAX; 90/576
		8463 kHz, F3C.	0300.	Ice FAX; 90/576.
3235	Pevek.	148 kHz, F3C.	0530-0730, 1130-1330, 1430-1630.	Ice FAX, 90/576.
<b>NORWAY</b>				
3242	Vardo (LGV).	1635, 1674, 1695, 1713 kHz, J3E, Ch. 04, 23, 24, 25, 26, 27, F3E.	0233, 0633, 1033, 1433, 1833, 2233.	Local navigational warnings, weather and ice.
		443.5, 523.5 kHz, A1A.	0218, 0518, 0818, 1118, 1418, 1718, 2018, 2318.	Local navigational warnings.
		443.5, 523.5 kHz, A1A.	1118, 2318.	Weather.
		1635, 1674, 1695, 1713 kHz, J3E, Ch. 04, 23, 24, 25, 26, 27, F3E.	1033, 2233.	Weather.
		518 kHz, F1B.	0330, 0730, 1130, 1530, 1930, 2330.	NAVTEX (V).
3244	Bodo (LGP).	1659, 1710, 1770, 1803 kHz, J3E, Ch. 01, 02, 03, 04, 05, 07, 19, 20, 21, 23, 24, 25, 26, 27, 28, 60, 62, 63, 64, 65, 81, 84, 85, F3E.	0333, 0733, 1133, 1533, 1933, 2333.	Local navigational warnings, weather and ice.
		518 kHz, F1B.	0010, 0410, 0810, 1210, 1610, 2010.	NAVTEX (B).
3248	Orlandet (LFO) (LGA) (LGD).	1737, 1782 kHz, J3E, Ch. 02, 03, 05, 07, 24, 25, 26, 27, 28, 61, 62, 82, F3E.	0133, 0533, 0933, 1333, 1733, 2133.	Local navigational warnings, weather and ice.
		518 kHz, F1B.	0210, 0610, 1010, 1410, 1810, 2210.	NAVTEX (N).
3251	Floro (LGL).	1680 kHz, J3E, Ch. 03, 23, 27, 65, F3E.	0233, 0633, 1033, 1433, 1833, 2133.	Local navigational warnings, weather and ice.
3252	Bergen (LGN).	1728 kHz, H3E, Ch. 07, 18, 21, 25, F3E.	0133, 0533, 0933, 1333, 1733, 2133.	Local navigational warnings, weather and ice.
3254	Rogaland (LFL) (LGN) (LGQ) (LGT).	1692 kHz, J3E, Ch. 20, 24, 26, F3E.	0333, 0733, 1133, 1533, 1933, 2333.	Local navigational warnings, weather and ice.
		8749, 13158 kHz, J3E.	1205, 1215.	Weather.
		1725 kHz, J3E.	1215, 2315.	Weather.
		6507, 8749 kHz, J3E.	2305, 2315.	Weather.
		518 kHz, F1B.	0150, 0550, 0950, 1350, 1750, 2150.	NAVTEX (L).
3256	Farsund (LGZ).	1671, 1785 kHz, J3E, Ch. 05, 07, 27, 61, F3E.	0133, 0533, 0933, 1333, 1733, 2133.	Local navigational warnings, weather and ice.
3258	Tjome (LGT).	1665 kHz, J3E, Ch. 02, 03, 07, 24, 25, 26, 27, 62, 63, 65, 79, 81, 86, 87, F3E.	0333, 0733, 1133, 1533, 1933, 2333.	Local navigational warnings, weather and ice.
		1665 kHz, J3E, Ch. 02, 03, 07, 24, 25, 26, 27, 62, 63, 65, 79, 81, 86, 87, F3E.	1020, 1320.	Ice.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
SWEDEN				
3280	Karlskrona (SAA).	2789 kHz, J3E.	Every odd hour +54m.	Local navigational warnings and weather.
		2789 kHz, J3E.	1154, 2154.	Ice.
		2789 kHz, J3E.	0954, 2154.	Weather.
3282	Tingstade (SAE).	2768 kHz, J3E.	Every even hour +06m.	Local navigational warnings and weather.
		2768 kHz, J3E.	1206, 2206.	Ice.
		2768 kHz, J3E.	1006, 2206.	Weather.
		Ch. 13, F3E.	0600, 1200.	Weather in Swedish (May - Nov.).
3288	Stockholm (SDJ).	1674, 1710, 1779, 1797, 2733 kHz, J3E, Ch. 01, 03, 21, 22, 23, 24, 25, 26, 27, 28, 62, 64, 65, 66, 78, 81, 82, 84, F3E.	0333, 0733, 1133, 1533, 1933, 2333.	Local navigational warnings, weather and ice (weather at 0733, 1933) (ice at 1133).
		1674, 1710, 1779, 1797, 2733 kHz, J3E, Ch. 01, 03, 21, 22, 23, 24, 25, 26, 27, 28, 62, 64, 65, 66, 78, 81, 82, 84, F3E.	0633, 1433.	Weather in Swedish (May - Nov.).
		518 kHz, F1B.	0110, 0510, 0910, 1310, 1710, 2110.	NAVTEX (H).
		518 kHz, F1B.	0130, 0530, 0930, 1330, 1730, 2130.	NAVTEX (J).
		518 kHz, F1B.	0030, 0430, 0830, 1230, 1630, 2030.	NAVTEX (D).
		FINLAND		
NOTE: Ships are requested to report ice and other navigational hazards by radio; ice conditions may be reported in ice code, English, Finnish, German or Swedish, and should be sent to the nearest coast radio station. Finnish icebreakers Urho (OHMS), Sisu (OHMW)*, Voima (OHLW), Apu (OHMP), Fennica (OJAD), Nordica (OJAE), Otso (OIRT), Kontio (OIRV) and Botnica (OJAK) maintain 24 hour watch on radiotelephone 2338 kHz and on VHF Ch. 16. Icebreakers will reply on the call frequency, whereafter the communication will continue on a working frequency. * Also 12 hour watch on radiotelegraphy 500 kHz.				
3314	Turku (OFK).	1638, 1677, 1719, 2810 kHz, J3E, Ch. 01, 02, 03, 04, 05, 07, 23, 24, 25, 26, 27, 28, 84, 85, 86, 88, F3E.	0233, 0633, 1033, 1433, 1833, 2233.	NAVAREA I, local navigational warnings and weather.
		1638, 1677, 1719, 2810 kHz, J3E, Ch. 01, 02, 03, 04, 05, 07, 23, 24, 25, 26, 27, 28, 84, 85, 86, 88, F3E.	0803, 1133, 1933.	Ice.
3315	Radio Finland (Yleisradio).	558, 963 kHz, A3E.	0655, 1045, 1710, 2055.	Local navigational warnings and weather in Finnish.
		93.1-100.3 MHz, F3E.	0615, 1045, 1710, 2010.	Local navigational warnings and weather in Finnish.
		558, 963 kHz, A3E, 93.1-100.3 MHz, F3E.	1045.	Ice in Finnish.
		6120 kHz, A3E.	1045 (Mon. - Sat.).	Local navigational warnings, weather and ice in Finnish.
RUSSIA - BALTIC COAST				
LONG-RANGE WARNINGS: NAVIP: World-wide navigational warnings. LOCAL WARNINGS: PRIP.				
3325	Kaliningrad (UIW) (UIW-2).	4228, 8454, 12877.5, 16927, 19724.5, 22603.5 kHz, F1B.	1000, 1620.	NAVIP warnings.
		3737, 6465, 8466, 12877.5 kHz, A1A.	2030.	NAVIP warnings.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
LITHUANIA				
3332	Klaipeda (LYK) (LYL).	3215 kHz, J3E.	0333, 0733, 1133, 1533, 1933, 2333.	Local navigational warnings.
		523, 3730 kHz, A1A.	0510, 1300.	Weather.
LATVIA				
3333	Riga (UDH) (UKB).	4357 kHz, J3E.	0033, 0433, 0833, 1233, 1633, 2033.	Local navigational warnings.
ESTONIA				
3334	Tallinn (ESA).	3310 kHz, H3E.	0233, 0633, 1033, 1433, 1833, 2233.	Local navigational warnings and weather.
		450, 6405 kHz, A1A.	1030.	Weather and ice.
		450 kHz, A1A.	2040.	Weather.
		518 kHz, F1B.	0320, 0720, 1120, 1520, 1920, 2320.	NAVTEX (U) (Broadcast relayed by Stockholm (SDJ)).
POLAND				
3336	Gdynia (SPC).	1692, 2726 kHz, J3E, Ch. 24, 25, 26, F3E.	0133, 0533, 0933, 1333, 1733, 2133.	Local navigational warnings.
		1692, 2726 kHz, J3E, Ch. 24, 25, 26, F3E.	1035, 1335.	Ice.
		1692, 2726 kHz, J3E, Ch. 24, 25, 26, F3E.	0135, 0735, 1335, 1935.	Weather.
3338	Szczecin (SPO).	1794 kHz, J3E, Ch. 26, F3E.	0200, 0600, 1000, 1400, 1800, 2200.	Local navigational warnings.
		Ch. 26, F3E.	0705, 1305, 1905.	Weather.
DENMARK				
NOTE: Ice information is available 24 hours on request from the Danish Ice Service at the Naval Operation Command (SOK) Århus by telephone: 45 89 43 32 04/53, fax: 45 89 43 32 44.				
3359	Lyngby (OXZ).	1704, 1734, 1758, 2586 kHz, J3E, Ch. 01, 02, 03, 04, 05, 07, 23, 28, 64, 65, 66, 83, F3E.	0133, 0533, 0933, 1333, 1733, 2133.	Local navigational warnings.
		1704, 1734, 1758, 2586 kHz, J3E.	1305.	Ice.
		1704, 1734, 1758, 2586 kHz, J3E, Ch. 01, 02, 03, 04, 05, 07, 23, 28, 64, 65, 66, 83, F3E.	On request.	Weather and ice.
		Ch. 02, 04, 05, 07, 28, 64, F3E.	0220, 0520, 0820, 1120, 1420, 1720, 2020, 2320.	SHIPPOS information.
3362	Danish Radio (Kalundborg).	243, 1062 kHz, A3E.	0445, 0745, 1045, 1645, 2145.	Weather in Danish.
		243 kHz, A3E.	1150.	Ice.
		243, 1062 kHz, A3E.	1530 (Mon. - Fri.).	Ice.
GERMANY - NORTH SEA				
NOTE: Vessels encountering dangers to navigation in waters of the Federal Republic of Germany should notify Seewarndienstzentrale Cuxhaven (Sea Warning Service Cuxhaven) through the nearest Coast Radio Station. The Sea Warning service is available 24 hours and can be contacted by telephone: 49 4721 567381, fax: 49 4721 567404, telex: 232154 SWD CX D, telegraph: Seewarn Cuxhaven. Reports of oil pollution should be sent to the Zentral Meldekopf Cuxhaven (ZMK) (Central Headquarters Cuxhaven) through the nearest Coast Radio Station. Radio telegrams must carry the legend ZMK Cuxhaven and commence with the codeword Oelunfall (Oil Accident). ZMK Cuxhaven bears the cost of the message and is available 24 hours by telephone: 49 4721 567485, fax: 49 4721 567404, telex: 232263 ZMK CX D, frequency: through Cuxhaven Elbe Traffic Ch. 16, 71.				
3370	Bremen (MRCC).	Ch. 16, F3E.	Every hour +00m, +30m.	Local navigational warnings.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3371	Offenbach/Pinneberg (DDH) (DDK).	147.3, 11039, 14467.3 kHz, F1B.	0950, 1715.	Local navigational warnings.
		4583, 7646, 10100.8 kHz, F1B.	0515.	Local navigational warnings.
		147.3, 11039, 14467.3 kHz, F1B.	0500, 0505, 0520, 0530, 0535, 0600, 0605, 0620, 0630, 0700, 0725, 0730, 0820, 0840, 0900, 0905, 0920, 0930, 1010, 1025, 1030, 1035, 1100, 1120, 1145, 1200, 1205, 1220, 1230, 1300, 1325, 1330, 1420, 1440, 1500, 1505, 1520, 1530, 1610, 1625, 1630, 1635, 1735, 1800, 1805, 1820, 1830, 1900, 1925, 1930, 2020, 2040, 2100, 2105, 2120, 2130.	Weather in German.
		4583, 7646, 10100.8 kHz, F1B.	0000, 0005, 0020, 0030, 0300, 0305, 0320, 0330, 0355, 0415, 0535, 0550, 0600, 0605, 0835, 0850, 0900, 0905, 0930, 0955, 1015, 1110, 1115, 1135, 1150, 1200, 1205, 1435, 1450, 1500, 1505, 1530, 1550, 1610, 1735, 1750, 1800, 1805, 2035, 2050, 2100, 2105, 2130, 2155, 2215, 2315.	Weather.
		3855, 7880, 13882.5 kHz, F3C.	0430-2200.	Weather FAX*; 120/576.
		3855, 7880, 13882.5 kHz, F3C.	0930, 1007, 1520, 1540, 1915, 2100, 2115.	Ice FAX*; 120/576.
*NOTE: Broadcast schedule at 1111.				
3373	Deutschlandfunk.	1269 kHz, A3E.	0105.	Local navigational warnings in German.
		1269 kHz, A3E.	0105, 0640, 1105.	Weather and ice in German.
NETHERLANDS				
3375	Netherlands Coast Guard (PBK).	3673 kHz, J3E, Ch. 23, 83, F3E.	0333, 0733, 1133, 1533, 1933, 2333.	Local navigational warnings and weather.
		3673 kHz, J3E.	0940, 2140.	Weather.
		Ch. 23, 83, F3E.	0705, 1205, 1805, 2205.	Weather in Dutch.
		518 kHz, F1B.	0230, 0630, 1030, 1430, 1830, 2230.	NAVTEX (P).
BELGIUM				
3378	Antwerpen.	Ch. 24, F3E.	Every hour +03m, +48m.	Local navigational warnings and weather.
3380	Oostende (OST) (OSU).	2761 kHz, J3E, Ch. 27, F3E.	0233, 0633, 1033, 1433, 1833, 2233.	Local navigational warnings.
		2761 kHz, J3E, Ch. 27, F3E.	0103, 0503, 0903, 1303, 1703, 2103.	Ice.
		2761 kHz, J3E, Ch. 27, F3E.	0820, 1720.	Weather.
		518 kHz, F1B.	0310, 0710, 1110, 1510, 1910, 2310.	NAVTEX (T).
		518 kHz, F1B.	0200, 0600, 1000, 1400, 1800, 2200.	NAVTEX (M) (Dover Strait broadcast for U.K.).
UNITED KINGDOM				
LONG-RANGE WARNINGS: NAVAREA I: Includes waters north to 71°N, south to 48°27'N and west to 35°W, and the Baltic Sea. Original reports to Hydrographer of the Navy, Radio Navigational Warnings, Ministry of Defence, Taunton. LOCAL WARNINGS: WZ: Original reports to Hydrographer of the Navy, Radio Navigational Warnings, Ministry of Defence.				
3390	Aberdeen (Coastguard MRCC).	2226 kHz, J3E, Ch. 10, 73, F3E.	0320, 0720, 1120, 1520, 1920, 2320.	Local navigational warnings and weather.
		2226 kHz, J3E.	0820, 2020 (Oct. 1 - Mar. 31).	Weather.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3391	Forth (Coastguard MRSC).	Ch. 10, 73, F3E.	0205, 0605, 1005, 1405, 1805, 2205.	Local navigational warnings and weather.
3392	Cullercoats.	490 kHz, F1B.	0720, 1920.	NAVTEX (U) (Inshore local broadcast).
		518 kHz, F1B.	0100, 0500, 0900, 1300, 1700, 2100.	NAVTEX (G).
3394	Humber (Coastguard MRSC).	2226 kHz, J3E, Ch. 23, 84, F3E.	0340, 0740, 1140, 1540, 1940, 2340.	Local navigational warnings and weather.
		2226 kHz, J3E.	0910, 2110 (Oct. 1 - Mar. 31).	Weather.
3396	Yarmouth (Coastguard MRCC).	1869 kHz, J3E, Ch. 10, 73, F3E.	0040, 0440, 0840, 1240, 1640, 2040.	Local navigational warnings and weather.
3397	Thames (Coastguard MRSC).	Ch. 10, 84, F3E.	0010, 0410, 0810, 1210, 1610, 2010.	Local navigational warnings and weather.
3397.1	Dover (Coastguard MRCC).	Ch. 10, 73, F3E.	0105, 0505, 0905, 1305, 1705, 2105.	Local navigational warnings and weather.
3397.2	Solent (Coastguard MRSC).	1641 kHz, J3E, Ch. 73, 86, F3E.	0040, 0440, 0840, 1240, 1640, 2040.	Local navigational warnings and weather.
3398	Niton.	490 kHz, F1B.	0310, 0710, 1110, 1510, 1910, 2310.	NAVTEX (T) in French.
		490 kHz, F1B.	0520, 1720.	NAVTEX (I) (Inshore local broadcast).
		518 kHz, F1B.	0300, 0700, 1100, 1500, 1900, 2300.	NAVTEX (S).
		518 kHz, F1B.	0140, 0540, 0940, 1340, 1740, 2140.	NAVTEX (K).
3400	Portland (Coastguard MRSC).	Ch. 10, 73, 86, F3E.	0220, 0620, 1020, 1420, 1820, 2220.	Local navigational warnings and weather.
3400.2	Brixham (Coastguard MRSC).	Ch. 10, 73, F3E.	0050, 0450, 0850, 1250, 1650, 2050.	Local navigational warnings and weather.
3400.3	Falmouth (Coastguard MRCC).	2226 kHz, J3E, Ch. 23, 86, F3E.	0140, 0540, 0940, 1340, 1740, 2140.	Local navigational warnings and weather.
		2226 kHz, J3E.	0950, 2150 (Oct. 1 - Mar. 31).	Weather.
3400.4	Swansea (Coastguard MRCC).	Ch. 10, 23, 73, 84, 86, F3E.	0005, 0405, 0805, 1205, 1605, 2005.	Local navigational warnings and weather.
3400.5	Milford Haven (Coastguard MRSC).	1767 kHz, J3E, Ch. 84, 86, F3E.	0335, 0735, 1135, 1535, 1935, 2335.	Local navigational warnings and weather.
3400.6	Holyhead (Coastguard MRSC).	1880 kHz, J3E, Ch. 10, 73, F3E.	0235, 0635, 1035, 1435, 1835, 2235.	Local navigational warnings and weather.
3400.7	Liverpool (Coastguard MRSC).	Ch. 10, 73, F3E.	0210, 0610, 1010, 1410, 1810, 2210.	Local navigational warnings and weather.
3401	Portpatrick.	490 kHz, F1B.	0820, 2020.	NAVTEX (C) (Inshore local broadcast).
		518 kHz, F1B.	0220, 0620, 1020, 1420, 1820, 2220.	NAVTEX (O).
3402	Clyde (Coastguard MRCC).	1883 kHz, J3E, Ch. 10, 23, 73, 84, 86, F3E.	0020, 0420, 0820, 1220, 1620, 2020.	Local navigational warnings and weather.
3404	Stornoway (Coastguard MRSC).	1743 kHz, J3E, Ch. 10, 67, 73, 84, F3E.	0110, 0510, 0910, 1310, 1710, 2110.	Local navigational warnings and weather.
3404.1	Shetland (Coastguard MRSC).	1770 kHz, J3E, Ch. 10, 23, 73, 84, F3E.	0105, 0505, 0905, 1305, 1705, 2105.	Local navigational warnings and weather.
		1770 kHz, J3E.	0710, 1910 (Oct. 1 - Mar. 31).	Weather.
3404.5	Belfast (Coastguard MRSC).	Ch. 10, 73, F3E.	0305, 0705, 1105, 1505, 1905, 2305.	Local navigational warnings and weather.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
IRELAND				
3405	Dublin (Coastguard MRCC).	Ch. 23, 83, 87, F3E.	0033, 0433, 0833, 1233, 1633, 2033.	Local navigational warnings.
		Ch. 23, 83, 87, F3E.	0033, 0103, 0403, 0633, 0703, 1003, 1233, 1303, 1603, 1833, 1903, 2203 (1 hr. earlier when daylight savings in effect).	Weather.
3406	Malin Head (EJM) (Coastguard MRSC).	1677 kHz, J3E, Ch. 23, 24, 26, 83, F3E.	0033, 0433, 0833, 1233, 1633, 2033.	Local navigational warnings.
		Ch. 23, 24, 26, 83, F3E.	0033, 0103, 0403, 0633, 0703, 1003, 1233, 1303, 1603, 1833, 1903, 2203 (1 hr. earlier when daylight savings in effect).	Weather.
		518 kHz, F1B.	0240, 0640, 1040, 1440, 1840, 2240.	NAVTEX (Q).
3408	Valentia (EJK) (Coastguard MRSC).	1752 kHz, J3E, Ch. 23, 24, 26, 28, F3E.	0233, 0633, 1033, 1433, 1833, 2233.	Local navigational warnings.
		1752 kHz, J3E.	0303, 0833, 0903, 1503, 2033, 2103.	Weather.
		Ch. 23, 24, 26, 28, F3E.	0103, 0403, 0703, 1003, 1303, 1603, 1903, 2203 (1 hr. earlier when daylight savings in effect).	Weather.
		Ch. 23, 24, 26, 28, F3E.	0033, 0633, 1233, 1833 (1 hr. earlier when daylight savings in effect).	Weather.
		518 kHz, F1B.	0340, 0740, 1140, 1540, 1940, 2340.	NAVTEX (W).
CHANNEL ISLANDS				
3410	Jersey.	1659 kHz, J3E, Ch. 25, 82, F3E.	0433, 0833, 1633, 2033.	Local navigational warnings.
		1659 kHz, J3E, Ch. 25, 82, F3E.	0307, 0645, 0745, 0845, 0907, 1245, 1507, 1845, 2107, 2245 (1 hr. earlier when daylight savings in effect for 0645, 0745, 0845).	Weather.
3411	St. Peter Port.	1764 kHz, J3E, Ch. 20, 62, F3E.	0133, 0533, 0933, 1333, 1733, 2133.	Local navigational warnings.
FRANCE - CHANNEL AND ATLANTIC				
LONG-RANGE WARNINGS: NAVAREA II: Includes the waters of the eastern Atlantic between 6°S and 48°27'N, west to 20°W up to 7°N and west to 35°W to the northern boundary. Original reports to the nearest coast radio station and vessels in the vicinity. Message should be preceded by the signal "TTT" and addressed to "PREFET MARITIME". It should include the originating vessel's name and owner. NOTE: Maritime Safety Information (MSI) broadcasts are announced by CROSS Stations on 2182 kHz or VHF Ch. 16 prior to broadcast on scheduled frequency or channel number.				
3421	Gris-Nez (CROSS) (MRCC).	1650 kHz, J3E.	0733, 1933.	Local navigational warnings in French and English.
		1650, 2677 kHz, J3E.	0733, 1933.	Weather in French.
		Ch. 79, F3E.	Every hour +03m, +04m, +10m.	Weather in French.
		Ch. 79, F3E.	0603, 0610, 0620, 1433, 1445, 1503, 1803, 1810, 1820.	Weather in French.
3421.5	Jobourg (CROSS) (MRCC).	Ch. 80, F3E.	Every hour +03m, +20m, +50m.	Weather in French and English.
		Ch. 80, F3E.	0603, 0615, 0633, 0645, 0703, 1433, 1445, 1503, 1515, 1533, 1803, 1815, 1833, 1845, 1903.	Weather in French.



## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3423	Corsen (CROSS) (MRCC).	2677 kHz, J3E.	0635, 1835.	Local navigational warnings.
		1650, 2677 kHz, J3E.	0715, 1915.	Weather in French.
		Ch. 79, F3E.	0345, 0403, 0415, 0433, 0445, 0603, 0615, 0633, 0645, 0703, 1003*, 1015*, 1033*, 1045*, 1103*, 1433, 1445, 1503, 1515, 1533, 1803, 1815, 1833, 1845, 1903.	Weather in French.
		Ch. 79, F3E.	Every hour +03m.	Weather in French.
		490 kHz, F1B.	0040, 0440, 0840, 1240, 1640, 2040.	NAVTEX (E) in French.
		518 kHz, F1B.	0000, 0400, 0800, 1200, 1600, 2000.	NAVTEX (A).
*NOTE: May 1 - Sep. 30.				
3423.5	Etel (CROSS) (MRCC).	2677 kHz, J3E.	Every hour +33m, 0803, 1403, 1803.	Weather in French.
		Ch. 79, F3E.	Every hour +03m, 0603, 0615, 0633, 0645, 0703, 1433, 1445, 1503, 1515, 1533, 1803, 1815, 1833, 1845, 1903.	Weather in French.
		Ch. 80, F3E.	Every hour +03m, 0603, 0615, 0633, 0645, 0703, 0715, 1433, 1445, 1503, 1515, 1533, 1545, 1803, 1815, 1833, 1845, 1903, 1915.	Weather in French.
SPAIN - NORTH COAST				
3430	La Guardia.	Ch. 82, F3E.	0950, 1150, 2150.	Weather.
		Ch. 82, F3E.	0903, 1603.	Local navigational warnings in Spanish.
3430.1	Vigo.	Ch. 10, F3E.	0015, 0415, 0815, 1215, 1815, 2015.	Weather.
		Ch. 10, F3E.	0215, 0615, 1015, 1415, 1815, 2215.	Local navigational warnings.
		Ch. 20, F3E.	0950, 1150, 2150.	Weather.
		Ch. 20, F3E.	0803, 1503.	Local navigational warnings in Spanish.
		Ch. 10, F3E.	Every even hour +33m, 0033, 0433, 0833, 1233, 1633, 2033.	Weather.
3430.2	Bilbao.	Ch. 10, F3E.	0233, 0633, 1033, 1433, 1833, 2233.	Local navigational warnings.
		Ch. 26, F3E.	0940, 1140, 2140.	Weather.
		Ch. 26, F3E.	0933, 1533.	Local navigational warnings in Spanish.
		Ch. 27, F3E.	0940, 1140, 2140.	Weather.
3430.3	Pasajes.	Ch. 27, F3E.	0803, 1503.	Local navigational warnings in Spanish.
		Ch. 11, F3E.	0245, 0645, 1045, 1445, 1845, 2245.	Weather.
3430.4	Santander.	Ch. 11, F3E.	0045, 0445, 0845, 1245, 1645, 2045.	Local navigational warnings.
		Ch. 24, F3E.	0940, 1140, 2140.	Weather.
		Ch. 24, F3E.	0803, 1503.	Local navigational warnings in Spanish.
		Ch. 27, F3E.	0940, 1140, 2140.	Weather.
3430.5	Navia.	Ch. 27, F3E.	0833, 1533.	Local navigational warnings in Spanish.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3430.6	Cabo Ortegal.	Ch. 02, F3E.	0950, 1150, 2150.	Weather.
		Ch. 02, F3E.	0903, 1603.	Local navigational warnings in Spanish.
3430.8	Cabo Penas (EAS).	1677 kHz, J3E.	0803, 1203, 1703.	Weather in Spanish.
		Ch. 26, F3E.	0940, 1140, 2140.	Weather.
		Ch. 26, F3E.	0903, 1603.	Local navigational warnings in Spanish.
3430.9	Gijon.	Ch. 10, F3E.	Every even hour +15m (0215-2215).	Weather.
		Ch. 10, F3E.	Every hour +15m.	Local navigational warnings.
3433	Finisterre (EAF).	1764 kHz, J3E, Ch. 11, F3E.	0033, 0433, 0833, 1233, 1633, 2033.	Local navigational warnings.
		1764 kHz, J3E.	0803, 1203, 1703.	Weather in Spanish.
		Ch. 11, F3E.	0233, 0633, 1033, 1433, 1833, 2233.	Weather.
		Ch. 22, F3E.	0950, 1150, 2150.	Weather.
		Ch. 22, F3E.	0903, 1633.	Local navigational warnings in Spanish.
3434	Coruna.	1698 kHz, J3E.	0833, 1233, 1733.	Weather in Spanish.
		1698 kHz, J3E.	0003, 0403, 0803, 1203, 1603, 2003.	Local navigational warnings.
		Ch. 12, 13, 14, F3E.	0005, 0405, 0805, 1205, 1605, 2005.	Weather.
		Ch. 13, F3E.	0205, 0605, 1005, 1405, 1805, 2205.	Local navigational warnings.
		Ch. 26, F3E.	0950, 1150, 2150.	Weather.
		Ch. 26, F3E.	0803, 1503.	Local navigational warnings in Spanish.
		518 kHz, F1B.	0030, 0430, 0830, 1230, 1630, 2030.	NAVTEX (D).
		1707 kHz, J3E.	0903, 1233, 1733.	Weather in Spanish.
3436	Machichaco.	1707 kHz, J3E.	0033, 0433, 0833, 1233, 1633, 2033.	Local navigational warnings.

### PORTUGAL

NOTE: Original reports to the nearest coast radio station. Message should be preceded by the signal "TTT" and be in English or International Code (NVPUB 102) giving the following information: description of navigational danger, position and date/time of observation.

3441	Leixoes.	Ch. 11, G3E.	0705, 1905.	Local navigational warnings in Portuguese.
		Ch. 11, G3E.	0705, 1905.	Weather in Portuguese and English, when possible.
3443	Setubal.	Ch. 11, F3E.	1030, 1630.	Local navigational warnings (Mon. - Fri.) and weather in Portuguese.
3443.2	Lisboa.	Ch. 11, F3E.	1030, 1700.	Local navigational warnings and weather in Portuguese.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3444	Monsanto (CTV).	2657 kHz, J3E.	0905, 2105.	Local navigational warnings in Portuguese (important warnings are repeated in English).
		2657 kHz, J3E.	0905, 2105.	Weather in Portuguese and English, when possible.
		Ch. 11, F3E.	1000, 1630.	Weather in Portuguese.
		Ch. 11, F3E.	1000, 1700.	Local navigational warnings in Portuguese.
		490 kHz, F1B.	0100, 0500, 0900, 1300, 1700, 2100.	NAVTEX (G) in Portuguese.
		518 kHz, F1B.	0250, 0650, 1050, 1450, 1850, 2250.	NAVTEX (R).
3445	Faro.	Ch. 11, G3E.	0835, 2035.	Local navigational warnings in Portuguese.
3456	Porto Santo, Madeira.	2657 kHz, J3E.	0905, 2105.	Local navigational warnings and weather.
		Ch. 11, F3E.	1030, 1630.	Local navigational warnings and weather in Portuguese.
ACORES				
3456.2	Ponta Delgada.	Ch. 11, F3E.	0830, 2000.	Local navigational warnings and weather in Portuguese.
3456.3	Horta (CTH).	2657 kHz, J3E.	0935, 2135.	Local navigational warnings and weather.
		Ch. 11, F3E.	0900, 2100.	Local navigational warnings and weather in Portuguese.
		490 kHz, F1B.	0130, 0530, 0930, 1330, 1730, 2130.	NAVTEX (J) in Portuguese.
		518 kHz, F1B.	0050, 0450, 0850, 1250, 1650, 2050.	NAVTEX (F).
3456.4	Flores.	Ch. 11, F3E.	0930, 1900.	Local navigational warnings and weather in Portuguese.
SPAIN - SOUTH AND MEDITERRANEAN				
LONG-RANGE WARNINGS: NAVAREA III: Includes the waters of the Mediterranean and the Black Sea. Original reports to NAVAREA III Coordinator, Instituto de la Marina.				
3458	Cadiz.	Ch. 26, F3E.	0940, 1140, 2140.	Weather.
		Ch. 26, F3E.	0903, 1603.	Local navigational warnings in Spanish.
3459	Alicante.	Ch. 85, F3E.	0940, 1140, 2140.	Weather.
		Ch. 85, F3E.	1003, 1603.	Local navigational warnings in Spanish.
3459.3	Chipiona.	1656 kHz, J3E.	0803, 1233, 1703.	Weather in Spanish.
		1656 kHz, J3E.	0003, 0403, 0803, 1203, 1603, 2003.	Local navigational warnings.
3459.35	Cabo de la Nao.	Ch. 02, F3E.	0940, 1140, 2140.	Weather.
		Ch. 02, F3E.	0833, 1533.	Local navigational warnings in Spanish.
		518 kHz, F1B.	0350, 0750, 1150, 1550, 1950, 2350.	NAVTEX (X).
3459.37	Valencia.	Ch. 10, F3E.	Every even hour +15m.	Local navigational warnings and weather.
3459.4	Castellon.	Ch. 28, F3E.	0940, 1140, 2140.	Weather.
		Ch. 28, F3E.	0803, 1503.	Local navigational warnings in Spanish.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast		
3459.5	Tarragona.	Ch. 13, F3E.	0530, 0930, 1530, 2030.	Local navigational warnings and weather.		
		Ch. 23, F3E.	0950, 1150, 2150.	Weather.		
		Ch. 23, F3E.	0833, 1533.	Local navigational warnings in Spanish.		
3459.55	Barcelona.	Ch. 10, F3E.	0600, 0900, 1500, 2000.	Weather.		
		Ch. 16, F3E.	0600, 0900, 1500, 2000.	Local navigational warnings.		
		Ch. 60, F3E.	0950, 1150, 2150.	Weather.		
		Ch. 60, F3E.	0803, 1503.	Local navigational warnings in Spanish.		
		3459.6	Malaga.	Ch. 26, F3E.	0940, 1140, 2140.	Weather.
				Ch. 26, F3E.	0803, 1503.	Local navigational warnings in Spanish.
3459.65	Almeria.	Ch. 10, 74, F3E.	Every hour +15m.	Local navigational warnings and weather.		
3459.7	Cabo de Gata.	1767 kHz, J3E.	0833, 1233, 1733.	Weather in Spanish.		
		1767 kHz, J3E.	0833, 2033.	Local navigational warnings.		
		Ch. 27, F3E.	0940, 1140, 2140.	Weather.		
		Ch. 27, F3E.	0903, 1603.	Local navigational warnings in Spanish.		
3460	Tarifa (EAC).	1704 kHz, J3E.	0803, 1233, 1703.	Weather.		
		1704 kHz, J3E.	0033, 0433, 0833, 1233, 1633, 2033.	Local navigational warnings.		
		Ch. 10, 74, F3E.	Every even hour +15m.	Weather.		
		Ch. 81, F3E.	0940, 1140, 2140.	Weather.		
		Ch. 81, F3E.	0833, 1533.	Local navigational warnings in Spanish.		
		518 kHz, F1B.	0100, 0500, 0900, 1300, 1700, 2100.	NAVTEX (G).		
		3462	Cartagena.	Ch. 04, F3E.	0940, 1140, 2140.	Weather.
Ch. 04, F3E.	0933, 1633.			Local navigational warnings in Spanish.		
3462.5	Bagur.	Ch. 23, F3E.	0950, 1150, 2150.	Weather.		
		Ch. 23, F3E.	0903, 1603.	Local navigational warnings in Spanish.		
ISLAS BALEARES						
3464	Palma (EAO).	1755 kHz, J3E.	0803, 1203, 1703.	Weather in Spanish.		
		1755 kHz, J3E.	0833, 2033.	Local navigational warnings.		
		Ch. 07, F3E.	0920, 1120, 2120.	Weather.		
		Ch. 07, F3E.	0903, 1603.	Local navigational warnings in Spanish.		
3464.5	Menorca.	Ch. 85, F3E.	0920, 1120, 2120.	Weather.		
		Ch. 85, F3E.	0833, 1533.	Local navigational warnings in Spanish.		
3465	Ibiza.	Ch. 03, F3E.	0920, 1120, 2120.	Weather.		
		Ch. 03, F3E.	1033, 1633.	Local navigational warnings in Spanish.		

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
FRANCE - MEDITERRANEAN				
NOTE: Maritime Safety Information (MSI) broadcasts are announced by CROSS Stations on 2182 kHz or VHF Ch. 16 prior to broadcast on scheduled frequency or channel number.				
3471	La Garde (CROSS) (MRCC).	1696, 2677 kHz, J3E.	0733, 1503.	Local navigational warnings.
		1696, 2677 kHz, J3E.	0550, 1333, 1750.	Weather in French.
		1696, 2677 kHz, J3E.	0003, 0403, 0803, 1203, 1603, 2003.	Weather in French.
		Ch. 79, F3E.	Every hour +03m, 0603, 0615, 1133, 1145, 1803, 1815.	Weather in French.
		Ch. 80, F3E.	Every hour +03m, 0633, 0645, 0703, 1203, 1215, 1233, 1833, 1845, 1903.	Weather in French.
		490 kHz, F1B.	0300, 0700, 1100, 1500, 1900, 2300.	NAVTEX (S) in French.
		518 kHz, F1B.	0340, 0740, 1140, 1540, 1940, 2340.	NAVTEX (W).
3473	Corse (Sous-CROSS) (MRSC).	Ch. 79, F3E.	Every hour +10m, 0633, 0645, 0703, 0715, 0733, 0745, 1133, 1145, 1203, 1215, 1233, 1245, 1833, 1845, 1903, 1915, 1933, 1945.	Weather in French.
MONACO				
3474	Monaco (3AC) (3AF).	4363 kHz, J3E, Ch. 20, 24, F3E.	0703.	Local navigational warnings in French (in English on request).
		4363, 8806, 13152, 17323, 22768 kHz, J3E.	0930.	Weather in French and English.
		4363 kHz, J3E, Ch. 20, 24, F3E.	0803, 1303, 1815.	Weather in French and English.
		8728, 8806 kHz, J3E.	0715, 1830.	Weather in French and English.
		Ch. 23, F3E.	Continuous.	Weather in French and English.
NOTE: Hours of service: 0600-2200 (Winter), 0500-2100 (Summer).				
ITALY				
3475	Roma (IAR).	521.5 kHz, A1A.	0948, 1318, 1748, 2118.	Local navigational warnings and weather.
		521.5, 4292, 8530, 13011, 17160.8 kHz, A1A.	0830, 2030.	Weather.
		521.5, 4292 kHz, A1A.	0050, 0650, 1250, 1850.	Weather.
		Ch. 25, F3E.	0533, 0933, 1333, 1833, 2333.	Local navigational warnings.
		Ch. 25, F3E.	0135, 0735, 1335, 1935.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.
		518 kHz, F1B.	0250, 0650, 1050, 1450, 1850, 2250.	NAVTEX (R).
3476	Cagliari (IDC).	444 kHz, A1A.	0918, 1248, 1648, 2048.	Local navigational warnings and weather.
		2680 kHz, J3E, Ch. 04, 62, 82, F3E.	0303, 0803, 1203, 1603, 2003.	Local navigational warnings.
		2680 kHz, J3E, Ch. 04, 62, 82, F3E.	0135, 0735, 1335, 1935.	Weather.
		2680 kHz, J3E.	0303, 0803, 1203, 1603, 2003.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.
		518 kHz, F1B.	0310, 0710, 1110, 1510, 1910, 2310.	NAVTEX (T).

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
<b>3477.2</b>	<b>Augusta (IQA).</b>	2628 kHz, J3E, Ch. 85, 86, F3E.	0333, 0833, 1233, 1633, 2033.	Local navigational warnings.
		2628 kHz, J3E, Ch. 85, 86, F3E.	0135, 0735, 1335, 1935.	Weather.
		2628 kHz, J3E.	0333, 0833, 1233, 1633, 2033.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.
		518 kHz, F1B.	0330, 0730, 1130, 1530, 1930, 2330.	NAVTEX (V).
<b>3477.3</b>	<b>Porto Cervo.</b>	Ch. 26, F3E.	0303, 0803, 1203, 1603, 2003.	Local navigational warnings.
		Ch. 26, F3E.	0135, 0735, 1335, 1935.	Weather.
<b>3477.4</b>	<b>Porto Torres (IZN).</b>	2719 kHz, J3E, Ch. 26, 28, 85, F3E.	0303, 0803, 1203, 1603, 2003.	Local navigational warnings.
		2719 kHz, J3E, Ch. 26, 28, 85, F3E.	0135, 0735, 1335, 1935.	Weather.
		2719 kHz, J3E.	0303, 0803, 1203, 1603, 2003.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.
<b>3477.5</b>	<b>Ancona (IPA).</b>	511.5 kHz, A1A.	0948, 1248, 1718, 2118.	Local navigational warnings and weather.
		2656 kHz, J3E, Ch. 02, 25, F3E.	0433, 0933, 1333, 1733, 2133.	Local navigational warnings.
		511.5 kHz, A1A.	0148, 0748, 1348, 1948.	Weather.
		2656 kHz, J3E, Ch. 02, 25, F3E.	0135, 0735, 1335, 1935.	Weather.
		2656 kHz, J3E.	0433, 0933, 1333, 1733, 2133.	Weather.
<b>3477.6</b>	<b>Ravenna.</b>	Ch. 68, F3E.	Continuous.	Weather.
		Ch. 27, F3E.	0433, 0933, 1333, 1733, 2133.	Local navigational warnings.
		Ch. 27, F3E.	0135, 0735, 1335, 1935.	Weather.
<b>3478</b>	<b>Genova (ICB).</b>	Ch. 68, F3E.	Continuous.	Weather.
		447 kHz, A1A.	0848, 1348, 1748, 2148.	Local navigational warnings and weather.
		2722 kHz, J3E, Ch. 07, 25, 27, F3E.	0333, 0833, 1233, 1633, 2033.	Local navigational warnings.
<b>3480</b>	<b>Livorno (IPL).</b>	2722 kHz, J3E, Ch. 07, 25, 27, F3E.	0135, 0735, 1335, 1935.	Weather.
		2722 kHz, J3E.	0333, 0833, 1233, 1633, 2033.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.
		2591 kHz, J3E, Ch. 26, 61, F3E.	0333, 0833, 1233, 1633, 2033.	Local navigational warnings.
<b>3480</b>	<b>Livorno (IPL).</b>	2591 kHz, J3E, Ch. 26, 61, F3E.	0135, 0735, 1335, 1935.	Weather.
		2591 kHz, J3E.	0333, 0833, 1233, 1633, 2033.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3482	Civitavecchia (IPD).	1888 kHz, J3E, Ch. 01, 64, F3E.	0533, 0933, 1333, 1833, 2333.	Local navigational warnings.
		1888 kHz, J3E, Ch. 01, 64, F3E.	0135, 0735, 1335, 1935.	Weather.
		1888 kHz, J3E.	0533, 0933, 1333, 1833, 2333.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.
3484	Napoli (IQH).	2632 kHz, J3E, Ch. 01, 25, 27, F3E.	0333, 0833, 1233, 1633, 2033.	Local navigational warnings.
		2632 kHz, J3E, Ch. 01, 25, 27, F3E.	0135, 0735, 1335, 1935.	Weather.
		2632 kHz, J3E.	0333, 0833, 1233, 1633, 2033.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.
3486	Messina (IDF).	2789 kHz, J3E, Ch. 88, F3E.	0333, 0833, 1233, 1633, 2033.	Local navigational warnings.
		2789 kHz, J3E, Ch. 88, F3E.	0135, 0735, 1335, 1935.	Weather.
		2789 kHz, J3E.	0333, 0833, 1233, 1633, 2033.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.
3487	Palermo (IPP).	1852 kHz, J3E, Ch. 27, 61, 81, 84, F3E.	0333, 0833, 1233, 1633, 2033.	Local navigational warnings.
		1852 kHz, J3E, Ch. 27, 61, 81, 84, F3E.	0135, 0735, 1335, 1935.	Weather.
		1852 kHz, J3E.	0333, 0833, 1233, 1633, 2033.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.
3489	Mazara del Vallo (IQQ).	2600 kHz, J3E, Ch. 25, 26, 82, F3E.	0333, 0833, 1233, 1633, 2033.	Local navigational warnings.
		2600 kHz, J3E, Ch. 25, 26, 82, F3E.	0135, 0735, 1335, 1935.	Weather.
		2600 kHz, J3E.	0333, 0833, 1233, 1633, 2033.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.
3490	Lampedusa (IQN).	1876 kHz, J3E, Ch. 25, 87, 88, F3E.	0333, 0833, 1233, 1633, 2033.	Local navigational warnings.
		1876 kHz, J3E, Ch. 25, 87, 88, F3E.	0135, 0735, 1335, 1935.	Weather.
		1876 kHz, J3E.	0333, 0833, 1233, 1633, 2033.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.
3493	Crotone (IPC).	2663 kHz, J3E, Ch. 26, 62, 84, 88, F3E.	0333, 0833, 1233, 1633, 2033.	Local navigational warnings.
		2663 kHz, J3E, Ch. 26, 62, 84, 88, F3E.	0135, 0735, 1335, 1935.	Weather.
		2663 kHz, J3E.	0333, 0833, 1233, 1633, 2033.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.
3495	Bari (IPB).	514.5 kHz, A1A.	0848, 1218, 1648, 2048.	Local navigational warnings and weather.
		2579 kHz, J3E, Ch. 01, 05, 27, F3E.	0333, 0833, 1233, 1633, 2033.	Local navigational warnings.
		514.5 kHz, A1A.	0125, 0725, 1325, 1925.	Weather.
		2579 kHz, J3E, Ch. 01, 05, 27, F3E.	0135, 0735, 1335, 1935.	Weather.
		2579 kHz, J3E.	0333, 0833, 1233, 1633, 2033.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3496	San Benedetto del Tronto (IQP).	1855 kHz, J3E, Ch. 65, 87, F3E.	0433, 0933, 1333, 1733, 2133.	Local navigational warnings.
		1855 kHz, J3E, Ch. 65, 87, F3E.	0135, 0735, 1335, 1935.	Weather.
		1855 kHz, J3E.	0433, 0933, 1333, 1733, 2133.	Weather.
		Ch. 68, F3E.	Continuous.	Weather.
3498	Trieste (IQX).	512.5 kHz, A1A.	0848, 1218, 1648, 2048.	Local navigational warnings and weather.
		2624 kHz, J3E, Ch. 01, 26, F3E.	0433, 0933, 1333, 1733, 2133.	Local navigational warnings.
		2624 kHz, J3E, Ch. 01, 26, 83, F3E.	0135, 0735, 1335, 1935.	Weather.
		2624 kHz, J3E.	0433, 0933, 1333, 1733, 2133.	Weather.
		Ch. 83, F3E.	0333, 0833, 1233, 1633, 2033.	Local navigational warnings.
		Ch. 68, F3E.	Continuous.	Weather.
		518 kHz, F1B.	0320, 0720, 1120, 1520, 1920, 2320.	NAVTEX (U).
		MALTA		
3498.05	Malta (9HD).	443 kHz, A1A, A2A.	0900, 1700, 2100.	NAVAREA III, local navigational warnings.
		2625 kHz, J3E, R3E, Ch. 04, F3E.	1003, 1603, 2103.	NAVAREA III, local navigational warnings.
		2625 kHz, J3E, R3E, Ch. 04, F3E.	0603, 1003, 1603, 2103.	Weather.
		518 kHz, F1B.	0220, 0620, 1020, 1420, 1820, 2220.	NAVTEX (O).
ALBANIA				
3498.1	Durres (ZAD).	460 kHz, A1A.	0818, 1218, 1618.	Local navigational warnings.
CROATIA				
3499	Split (9AS).	Ch. 07, 21, 81, F3E.	0545, 1245, 1945.	Local navigational warnings and weather.
		518 kHz, F1B.	0240, 0640, 1040, 1440, 1840, 2240.	NAVTEX (Q).
3499.05	Dubrovnik (9AD).	2615 kHz, J3E, Ch. 04, 07, F3E.	0625, 1320, 2120.	Local navigational warnings and weather.
3499.1	Rijeka (9AR).	2771 kHz, J3E, Ch. 24, F3E.	0535, 1435, 1935.	Local navigational warnings and weather.
YUGOSLAVIA				
3499.5	Bar.	2752 kHz, J3E, Ch. 24, F3E.	0850, 1420, 2050.	Local navigational warnings and weather.
GREECE				
3500	Kerkira (SVK).	2830 kHz, J3E.	0033, 0633, 1033, 1633.	Local navigational warnings.
		2830 kHz, J3E.	0703, 0903, 1533, 2133.	Weather.
		518 kHz, F1B.	0140, 0540, 0940, 1340, 1740, 2140.	NAVTEX (K).
3502	Iraklion (SVH).	2799 kHz, J3E.	0633, 1133, 1733, 2333.	Local navigational warnings.
		2799 kHz, J3E.	0703, 0903, 1533, 2133.	Weather.
		518 kHz, F1B.	0110, 0510, 0910, 1310, 1710, 2110.	NAVTEX (H).



## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3503	Rodhos (SVR).	2624 kHz, J3E.	0633, 1133, 1733, 2333.	Local navigational warnings.
		2624 kHz, J3E.	0703, 0903, 1533, 2133.	Weather.
3504	Athens (SVN) (SVJ4).	2590 kHz, J3E.	0703, 0933, 1503, 2103.	Weather.
		8743 kHz, J3E.	1215, 2015.	Weather in Greek.
		8743 kHz, J3E.	0633, 1233, 1633, 2233.	Local navigational warnings.
		4481, 8105 kHz, F3C.	0845-0945.	Weather FAX; 120/576.
3506	Hellenic Radio-Television.	729 kHz, A3E.	0450.	Local navigational warnings.
		729, 927, 1008, 1044, 1404, 1485, 1494, 1512, 1602 kHz, A3E, 88.0-97.9, 101.8 MHz, F3E.	1330.	Local navigational warnings.
		729 kHz, A3E.	0430.	Weather.
		729, 927, 1008, 1044, 1404, 1485, 1494, 1512, 1602 kHz, A3E.	1330.	Weather in Greek.
3507	Hellas.	Ch. 01, 02, 04, 23, 25, 27, 60, 63, 82, 83, 85, F3E.	0500, 1100, 1730, 2330.	Local navigational warnings.
		Ch. 01, 02, 04, 23, 25, 27, 60, 63, 82, 83, 85, F3E.	0600, 1000, 1600, 2200.	Weather.
		Ch. 86, F3E.	Continuous.	Local navigational warnings and weather.
3508	Limnos (SVL).	2730 kHz, J3E.	0033, 0633, 1033, 1633.	Local navigational warnings.
		2730 kHz, J3E.	0703, 0903, 1533, 2133.	Weather.
		518 kHz, F1B.	0150, 0550, 0950, 1350, 1750, 2150.	NAVTEX (L).
CYPRUS				
3509	Cyprus (5BA).	2700 kHz, H3E, J3E, R3E.	0733, 1533.	Local navigational warnings.
		518 kHz, F1B.	0200, 0600, 1000, 1400, 1800, 2200.	NAVTEX (M).
BULGARIA				
3510	Varna (LZW).	3740 kHz, J3E.	0703, 1903.	Local navigational warnings and weather.
		4212.5 kHz, F1B.	0630, 1830.	Weather.
		12635.5 kHz, F1B.	0630, 1230, 1830.	Weather.
		Ch. 26, F3E.	0733, 1933.	Local navigational warnings and weather.
		518 kHz, F1B.	0130, 0530, 0930, 1330, 1730, 2130.	NAVTEX (J).
ROMANIA				
3512	Constanta (YQI).	446.5 kHz, A1A.	0650, 1850.	Local navigational warnings and weather.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
UKRAINE				
3514	Odessa (UDE) (UFB).	510.5 kHz, A1A.	1718, 2318.	Local navigational warnings.
		510.5, 6341.5 kHz, A1A.	0518, 1118.	Local navigational warnings.
		3310 kHz, R3E.	0233, 0633, 1033, 1433, 1833, 2233.	Local navigational warnings.
		510.5, 6341.5 kHz, A1A.	0520, 1500, 2105.	Weather and ice (in Russian at 0520, 1500).
		6353, 8520, 12947, 17155 kHz, A1A.	0100.	Weather (Apr. 15 - Sept. 30 on 17155 kHz).
		518 kHz, F1B.	0230, 0630, 1030, 1430, 1830, 2230.	NAVTEX (C).
3516	Sevastopol (URL-8).	476 kHz, A1A.	0018, 0618, 1218, 1818.	Local navigational warnings.
		2695 kHz, H3E.	0033, 0733, 1133, 1533, 1933, 2233.	Local navigational warnings.
3517	Mariupol (USU) (UTW).	473 kHz, A1A.	0218, 0818, 1418, 2018.	Local navigational warnings.
		2805 kHz, H3E.	0233, 0633, 1033, 1433, 1833, 2233.	Local navigational warnings.
		473, 4265 kHz, A1A.	0500, 1700.	Weather and ice in Russian (ice at 1700).
		2805 kHz, H3E.	0330, 0930.	Weather and ice in Russian (ice at 0930).
		6326.5, 8422.5, 12615, 16829 kHz, F1B.	1440.	Local navigational warnings in Russian and Ukrainian (selected warnings repeated in English).
		518 kHz, F1B.	0100, 0500, 0900, 1300, 1700, 2100.	NAVTEX (B).
3518	Kiev.	12828.7 kHz, F3C.	1857 (on 1, 6, 11, 16, 21, 26 of each month).	Ice FAX; 120/576.
GEORGIA				
3519	Batumi (UFA).	484 kHz, A1A.	0118, 0718, 1318, 1918.	Local navigational warnings.
		3630 kHz, H3E.	0133, 0533, 0933, 1333, 1733, 2133.	Local navigational warnings.
		484 kHz, A1A.	0507, 1307, 2030.	Weather in Russian.
RUSSIA - BLACK SEA				
	LONG-RANGE WARNINGS: NAVIP: World-wide navigational warnings. LOCAL WARNINGS: PRIP.			
3520	Novorossiysk (UDN) (UDF).	4245, 8571 kHz, A1A.	0930, 2130.	Weather and PRIP warnings in Russian.
		518 kHz, F1B.	0300, 0700, 1100, 1500, 1900, 2300.	NAVTEX (A).
TURKEY				
3528	Mersin (TAM).	2820 kHz, J3E.	0133, 0533, 0933, 1333, 1733, 2133.	Local navigational warnings in Turkish.
		516 kHz, A1A.	0233, 0633, 1033, 1433, 1833, 2233.	Local navigational warnings.
3528.1	Antalya (TAL).	Ch. 67, F3E.	0700, 1000, 1300, 1600, 1900.	Weather.
		518 kHz, F1B.	0050, 0450, 0850, 1250, 1650, 2050.	NAVTEX (F).

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3529	Izmir (TAN).	524 kHz, A1A, 1850, 2670 kHz, A3E.	0333, 0733, 1133, 1533, 1933, 2333.	Local navigational warnings (in Turkish on 1850, 2670 kHz).
		Ch. 67, F3E.	0700, 1000, 1300, 1600, 1900.	Weather.
		518 kHz, F1B.	0120, 0520, 0920, 1320, 1720, 2120.	NAVTEX (I).
3530	Turkish Radio-Television Corporation.	200, 245, 630, 891, 927, 1017, 1062, 1467 kHz, A3E.	0430, 1000, 1600, 2000.	Local navigational warnings in Turkish.
3531	Samsun (TAF).	416, 516 kHz, A1A, 1760, 2670 kHz, H3E, J3E, R3E.	0233, 0633, 1033, 1433, 1833, 2233.	Local navigational warnings (in Turkish on 1760, 2670 kHz).
		Ch. 67, F3E.	0700, 1000, 1300, 1600, 1900.	Weather.
		518 kHz, F1B.	0040, 0440, 0840, 1240, 1640, 2040.	NAVTEX (E).
3532	Bandirma (YMB20).	478 kHz, A1A.	0700, 0720, 1900, 1920.	Weather.
		3636 kHz, A1A.	0800, 1330, 1730, 2200.	Weather.
		6965 kHz, A1A.	0950, 2150.	Weather.
		6965 kHz, A3E.	0625, 1655.	Weather.
		4560 kHz, F1B.	Every hour +10m, +30m.	Weather.
3533	Istanbul (TAH).	513 kHz, A1A.	0233, 0633, 1033, 1433, 1833, 2233.	Local navigational warnings.
		2670 kHz, J3E.	0033, 0433, 0833, 1233, 1633, 2033.	Local navigational warnings.
		4405, 8812, 13128 kHz, J3E.	1000, 1800.	Weather.
		4560, 8431, 12654 kHz, F1B.	0800, 2000.	Weather.
		Ch. 67, F3E.	0700, 1900.	Weather.
		518 kHz, F1B.	0030, 0430, 0830, 1230, 1630, 2030.	NAVTEX (D).
		ISRAEL		
3534	Haifa (4XO).	2649 kHz, J3E, Ch. 25, F3E.	0303, 0703, 1103, 1503, 1903, 2303.	Local navigational warnings and weather.
		518 kHz, F1B.	0020, 0420, 0820, 1220, 1620, 2020.	NAVTEX (P).
EGYPT - MEDITERRANEAN				
3536	Port Said (SUP).	433 kHz, A1A.	0518, 0718, 0918, 1118, 1318, 1518, 1718, 1918, 2118.	Local navigational warnings.
3537	Alexandria (SUH).	444 kHz, A1A.	0018, 0248, 0448, 0648, 0848, 1048, 1218, 1448, 1648, 1848, 2048, 2248.	Local navigational warnings.
		444 kHz, A1A.	0100, 1300.	Weather.
		518, kHz, F1B.	0210, 0610, 1010, 1410, 1810, 2210.	NAVTEX (N).
LIBYA				
3538	Tripoli (5AT).	500 kHz, A1A, A2A.	0948, 1748.	Local navigational warnings.
		2182 kHz, H3E, J3E.	0903, 1903.	Local navigational warnings.
TUNISIA				
3540	La Goulette Port (3VW).	2182 kHz, A3E.	0003, 0403, 0603, 1003, 1303, 1803, 1903, 2103.	Local navigational warnings in French.
		1743 kHz, A3E.	0405, 1905.	Weather in French.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3542	Tunis (3VT) (3VX).	1820, 2670 kHz, A3E.	0803, 1203, 2003.	Local navigational warnings in French.
		487 kHz, A2A.	0848, 2048.	Local navigational warnings in French.
		410, 487, 515 kHz, A2A.	0830, 1730.	Weather in French.
		1820, 2670 kHz, A3E.	0805, 1705.	Weather in French.
<b>ALGERIA</b>				
3550	Annaba (7TB).	2775 kHz, A3E.	0833, 2033.	Local navigational warnings in French.
		1745 kHz, A3E.	0920, 1033, 1720, 1833.	Weather in French.
3552	Alger (7TA).	416 kHz, A1A, A2A, 1792 kHz, A3E.	0918, 2118.	Local navigational warnings in French.
		1792 kHz, A3E.	0903, 1703.	Weather in French.
		416 kHz, A1A, A2A, 2691 kHz, A3E.	0918, 2118.	Weather in French.
3554	Oran (7TO).	1735 kHz, A3E.	0833, 2033.	Local navigational warnings and weather in French.
		1735, 2586, 2719 kHz, A3E.	0920, 1033, 1720, 1735.	Weather in French.
<b>MOROCCO</b>				
NOTE: Vessels observing dangers to navigation are requested to transmit observations to the nearest coast radio station and other vessels in the vicinity. Message should be preceded by the signal "TTT" and addressed to Commander, Royal Navy, Casablanca, giving observing vessel's name and owner.				
3560	Tanger (CNW).	447 kHz, A1A, A2A.	0918, 1648.	Local navigational warnings in French.
		1911 kHz, A3E.	0915, 1635.	Weather in French.
		447 kHz, A1A, A2A.	Every hour +18m, +48m.	Weather in French.
		2182, 2635 kHz, A3E.	Every hour +03m.	Weather in French.
3570	Agadir (CND).	461 kHz, A1A, A2A.	0948, 2148.	Local navigational warnings in French.
		1911 kHz, A3E.	1048, 1648.	Local navigational warnings in French.
		1911 kHz, A3E.	0935, 1615.	Weather in French.
		461 kHz, A1A, A2A.	Every hour +18m, +48m.	Weather in French.
		2182 kHz, A3E.	Every hour +33m.	Weather in French.
3572	Casablanca (CNP).	441 kHz, A1A, A2A.	0818, 2018.	Local navigational warnings in French.
		2586 kHz, A3E.	0918, 2028.	Local navigational warnings in French.
		2586 kHz, A3E.	0945, 1645.	Weather in French.
		441 kHz, A1A, A2A.	Every hour +18m, +48m.	Weather in French.
		2182 kHz, A3E.	Every hour +33m.	Weather in French.
3574	Safi (CND-3).	1743 kHz, A3E.	0928, 1648.	Local navigational warnings in French.
		1743 kHz, A3E.	0915, 1635.	Weather in French.
		2182 kHz, A3E.	Every hour +03m.	Weather in French.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
ISLAS CANARIAS				
3579	Arrecife.	1644 kHz, J3E.	0903, 1233, 1803.	Weather in Spanish.
		1644 kHz, J3E.	0003, 0403, 0803, 1203, 1603, 2003.	Local navigational warnings.
		Ch. 25, F3E.	0903, 1803.	Weather in Spanish.
		Ch. 25, F3E.	0903, 1603.	Local navigational warnings in Spanish.
3579.5	Fuerteventura.	Ch. 22, F3E.	0903, 1603.	Local navigational warnings in Spanish.
3580	Las Palmas (EAL).	1689 kHz, J3E.	0903, 1203, 1803.	Weather in Spanish.
		1689 kHz, J3E.	0003, 0403, 0803, 1203, 1603, 2003.	Local navigational warnings
		Ch. 26, F3E.	0840, 1040, 2040.	Weather.
		Ch. 26, F3E.	0903, 1603.	Local navigational warnings in Spanish.
		518 kHz, F1B.	0120, 0520, 0920, 1320, 1720, 2120.	NAVTEX (I).
3581	Tenerife.	Ch. 11, 18, 67, F3E.	0015, 0415, 0815, 1215, 1615, 2015.	Weather.
		Ch. 11, F3E.	0215, 0615, 1015, 1415, 1815, 2215.	Local navigational warnings.
		Ch. 27, F3E.	0840, 1040, 2040.	Weather.
		Ch. 27, F3E.	0833, 1533.	Local navigational warnings in Spanish.
3581.3	Gomera.	Ch. 24, F3E.	0840, 1040, 2040.	Weather.
		Ch. 24, F3E.	0833, 1533.	Local navigational warnings in Spanish.
3581.6	Hierro.	Ch. 23, F3E.	0840, 1040, 2040.	Weather.
		Ch. 23, F3E.	0833, 1533.	Local navigational warnings in Spanish.
3581.9	La Palma.	Ch. 22, F3E.	0840, 1040, 2040.	Weather.
		Ch. 22, F3E.	0833, 1533.	Local navigational warnings in Spanish.
MAURITANIA				
3583	Nouadhibou (5TA).	8572 kHz, A1A.	1033, 1233, 1633.	Local navigational warnings.
		1881 kHz, A3E.	0833.	Weather in French.
SENEGAL				
3584	Dakar (6VA).	416 kHz, A2A, 1813 kHz, A3E.	0848, 1248, 1948.	Local navigational warnings in French.
		6383, 8690 kHz, A1A.	1000, 2200.	Weather in French.
GAMBIA				
3585	Banjul (C5G).	438 kHz, A1A, A2A, 500 kHz, A1A.	0818, 1018, 1218, 1418, 1618, 1818.	Local navigational warnings.
GUINEA-BISSAU				
3586	Bissau (J5M).	421 kHz, A1A.	0048, 1018.	Local navigational warnings in Portuguese.
GUINEA				
3590	Conakry (3XC).	484 kHz, A2A, 1813 kHz, A3E.	0818.	Local navigational warnings in French.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
<b>SIERRA LEONE</b>				
3595	Freetown (9LL).	421 kHz, A1A, A2A.	0900, 1318, 1700.	Local navigational warnings.
		6411 kHz, A1A.	1318.	Local navigational warnings.
		8710 kHz, A1A.	0900.	Local navigational warnings.
<b>IVORY COAST</b>				
3600	Abidjan (TUA).	487 kHz, A2A, 2586 kHz, H3E.	0848, 1248, 1948.	Local navigational warnings in French.
<b>BENIN</b>				
3610	Cotonou (TYA).	418 kHz, A2A, 1813 kHz, H3E.	0818, 1218, 1718.	Local navigational warnings in French.
		1813 kHz, H3E.	1003, 1603.	Weather in French.
<b>NIGERIA</b>				
3615	Lagos (5OW).	447 kHz, A1A, A2A.	Every even hour +18m.	Local navigational warnings.
		2755 kHz, J3E.	0833, 1303.	Local navigational warnings.
3617	Port Harcourt (5OZ).	520 kHz, A1A, A2A.	Every even hour +35m.	Local navigational warnings.
		2630 kHz, J3E.	0820, 1220.	Local navigational warnings.
<b>CAMEROON</b>				
3620	Douala (TJC).	500, 519 kHz, A1A.	Every hour +48m.	Local navigational warnings in French.
		8449 kHz, A1A.	0800.	Local navigational warnings and weather in French.
		13069.5 kHz, A1A.	1650.	Weather in French.
<b>NAMIBIA</b>				
3627	Luderitz (V5L).	Ch. 23, G3E.	0905, 1605.	NAVAREA VII and local navigational warnings.
		Ch. 23, G3E.	0935, 1235, 1635.	Weather.
3628	Walvis Bay (V5W).	1764, 4357 kHz, J3E, Ch. 26, 27, G3E.	0905, 1605.	NAVAREA VII and local navigational warnings.
		1764, 4357 kHz, J3E, Ch. 26, 27, G3E.	0935, 1235, 1635.	Weather.
		518 kHz, F1B.	0010, 0410, 0810, 1210, 1610, 2010.	NAVTEX (B).
<b>ANGOLA</b>				
3629	Luanda (D3E).	4143.6, 8291.1 kHz, J3E, Ch. 24, F3E.	0233, 0633, 1033, 1433, 1833, 2233.	Local navigational warnings in Portuguese.
<b>CONGO</b>				
3630	Pointe Noire (TNA).	524 kHz, A1A, 2705 kHz, R3E.	0610, 0810, 1010, 1410, 1610.	Local navigational warnings in French.
<b>ZAIRE</b>				
3635	Banana (9PA).	489, 500 kHz, A1A, 8714 kHz, F1B.	0620, 0820, 1220, 1620.	Local navigational warnings in French.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
SOUTH AFRICA				
LONG-RANGE WARNINGS: NAVAREA VII: Includes waters of the South Atlantic and Indian Oceans, bound on the west by a line running from the African Coast at 6°S to 20°W, thence south to Antarctica, and on the east by a line running from the east African coast at 10°30'S to 55°E, thence south to 30°S, east to 80°E and south to Antarctica. Original reports to NAVAREA VII Coordinator, Hydrographer, S.A. Navy, Maritime Headquarters, Cape Town.				
3641	Port Elizabeth (ZSQ).	4435, 8800, 13146 kHz, J3E, Ch. 23, 24, 25, 27, 28, 83, G3E.	1015, 1333, 1815.	NAVAREA VII, local navigational warnings and weather (weather only at 1333).
		518 kHz, F1B.	0120, 0520, 0920, 1320, 1720, 2120.	NAVTEX (I).
NOTE: HF and VHF voice broadcasts remotely controlled from Cape Town.				
3643	Durban (ZSD).	4435, 8800, 13146 kHz, J3E, Ch. 01, 03, 25, 26, 27, 28, G3E.	1015, 1333, 1815.	NAVAREA VII, local navigational warnings and weather (weather only at 1333).
		518 kHz, F1B.	0220, 0620, 1020, 1420, 1820, 2220.	NAVTEX (O).
NOTE: HF and VHF voice broadcasts remotely controlled from Cape Town.				
3644	Cape Town (ZSC) (ZSJ).	4435, 8800, 13146 kHz, J3E, Ch. 01, 03, 04, 23, 25, 26, 27, 84, 85, 86, G3E.	1015, 1333, 1815.	NAVAREA VII, local navigational warnings and weather (weather only at 1333).
		4214, 6322, 8431.5, 12601, 16816, 19692.5 kHz, F1B.	0930, 1730.	Marine Safety Information (MSI) (HF NBDP) (NAVAREA VII, local navigational warnings and weather).
		4014 kHz, F3C.	1600-0600.	Weather FAX*; 120/576.
		7508, 13538 kHz, F3C.	0000-2400.	Weather FAX*; 120/576.
		18238 kHz, F3C.	0600-1600.	Weather FAX*; 120/576.
		518 kHz, F1B.	0020, 0420, 0820, 1220, 1620, 2020.	NAVTEX (C).
*NOTE: Broadcast schedule at 0430.				
3645	East London (ZSA).	Ch. 26, G3E.	1015, 1333, 1815.	NAVAREA VII, local navigational warnings and weather (weather only at 1333).
NOTE: VHF voice broadcasts remotely controlled from Cape Town.				
CHILE				
LONG-RANGE WARNINGS: NAVAREA XV: Includes the waters of the eastern South Pacific from 18°21'S to Antarctica, bound on the west by 120°W and on the east by 67°16'W. Original reports to Director del Servicio Hidrografico y Oceanografico de la Armada de Chile, Valparaiso.				
3645.4	Puerto Montt (CBP).	2738, 4146 kHz, J3E.	0045, 1425.	Local navigational warnings and weather.
		Ch. 10, G3E.	0145, 1445.	Weather.
		518 kHz, F1B.	0430, 1230, 2030.	NAVTEX (D).
		518 kHz, F1B.	0030, 0830, 1630.	NAVTEX (K) in Spanish.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3645.5	Valparaiso Playa Ancha (CBV).	4214.5, 4217.5, 8420.5, 8424, 12583.5, 12587, 16811, 16814.5 kHz, F1B.	0215, 1430, 2210.	NAVAREA XV warnings; local navigational warnings in Spanish at 0215, 1430.
		4214.5, 4217.5, 8420.5, 8424, 12583.5, 12587, 16811, 16814.5 kHz, F1B.	0110, 1210, 1610, 1845.	Weather.
		2738, 4357 kHz, J3E, Ch. 10, G3E.	0135, 1435.	Weather in Spanish.
		Ch. 10, G3E.	0215, 1415.	Weather in Spanish.
		4228, 8677, 17146.4 kHz, F3C.	1115, 1630, 1915, 2315.	Weather FAX; 120/576.
		518 kHz, F1B.	0410, 1210, 2010.	NAVTEX (B).
		518 kHz, F1B.	0010, 0810, 1610.	NAVTEX (I) in Spanish.
3645.6	Talcahuano (CBT).	2738 kHz, J3E.	0210, 1410.	Weather in Spanish.
		Ch. 10, G3E.	0215, 1415.	Weather in Spanish.
		518 kHz, F1B.	0420, 1220, 2020.	NAVTEX (C).
		518 kHz, F1B.	0020, 0820, 1620.	NAVTEX (J) in Spanish.
3645.7	Magallanes (CBM).	2738, 4146 kHz, J3E.	0235, 1435.	Weather in Spanish.
		Ch. 10, G3E.	0210, 1410.	Weather in Spanish.
		518 kHz, F1B.	0440, 1240, 2040.	NAVTEX (E).
		518 kHz, F1B.	0040, 0840, 1640.	NAVTEX (L) in Spanish.
3645.75	Antofagasta (CBA).	2738 kHz, J3E.	0205, 1405.	Weather in Spanish.
		Ch. 10, G3E.	0215, 1415.	Weather in Spanish.
		518 kHz, F1B.	0400, 1200, 2000.	NAVTEX (A).
		518 kHz, F1B.	0000, 0800, 1600.	NAVTEX (H) in Spanish.
3645.76	Isla de Pascua (Easter Island) (CBY).	2738 kHz, J3E.	0225, 1425.	Weather.
		Ch 10, G3E.	0215, 1415.	Weather.
		518 kHz, F1B.	0450, 1250, 2050.	NAVTEX (F).
		518 kHz, F1B.	0050, 0850, 1650.	NAVTEX (G) in Spanish.
3645.77	Centro Meteorologico Presidente Eduardo Frei, King George Island (South Shetland Islands) (CAN6D).	5302.5, 11662.5, 15470 kHz, F1B.	0030, 0330, 0930, 1230, 1530, 2130, 2230.	Weather.
		5302.5, 11662.5 kHz, F1B.	1445, 2245.	Ice.
3645.8	Base Prat, Greenwich Island (South Shetland Islands) (CCZ).	6439 kHz, F1B.	1400, 2200.	Weather.

### ECUADOR

NOTE: Original reports to Guayaquil (HCG) Naval Radio, preceded by the word "HIDRO", or mail to Institute of the Navy, Guayaquil.

3646	Guayaquil Naval (HCG).	8474 kHz, A2A.	0000, 1200, 1700.	Local navigational warnings.
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## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
<b>PERU</b>				
LONG-RANGE WARNINGS: NAVAREA XVI: Includes the waters of the eastern South Pacific between 3°24'S and 18°21'S, west to 120°W. Original reports to Direccion de Hidrografia y Navegacion de la Marina, Callao.				
3646.1	Callao (OBC).	485, 12307 kHz, A1A.	0200, 1600, 2100.	Local navigational warnings and weather in Spanish, NAVAREA XVI.
		518 kHz, F1B.	0320, 0720, 1120, 1520, 1920, 2320.	NAVTEX (U).
3646.2	Paita (OBY-2).	485, 6436 kHz, A1A.	0230, 1630, 2130.	Local navigational warnings.
		518 kHz, F1B.	0300, 0700, 1100, 1500, 1900, 2300.	NAVTEX (S).
3646.3	Mollendo (OBF-4).	156.8 MHz, F3E.	0245, 1645, 2145.	Local navigational warnings and weather.
		518 kHz, F1B.	0340, 0740, 1140, 1540, 1940, 2340.	NAVTEX (W).
<b>UNITED STATES - PACIFIC</b>				
LONG-RANGE WARNINGS: NAVAREA XII: Original reports to NAVAREA XII Coordinator, National Imagery and Mapping Agency, Attn: PTNM (Mail stop D-44). HYDROPAC: Original reports to National Imagery and Mapping Agency. LOCAL WARNINGS: Local Notice to Mariners: Original reports to nearest Coast Guard Station for relay to District Commander (oan).				
3646.5	Long Beach, CA (NMC) (NMQ-9) U.S. Coast Guard.	2670 kHz, J3E.	0503, 1303, 2103.	Local Notice to Mariners and weather.
		Ch. 22A, F3E.	0200, 1800.	Local Notice to Mariners and weather.
3646.6	Cambria, CA (NMQ) U.S. Coast Guard.	518 kHz, F1B.	0045, 0445, 0845, 1245, 1645, 2045.	NAVTEX (Q).
3657	Point Reyes, CA (NMC) (NMC-17) U.S. Coast Guard.	2670 kHz, J3E.	0203, 1403.	Local Notice to Mariners and weather.
		8416.5, 16806.5 kHz, F1B.	0005, 1800.	Maritime Safety Information (MSI) (HF NBDP) (NAVAREA XII, HYDROPAC and weather).
		4426, 8764, 13089 kHz, J3E.	0430, 1030.	Maritime Safety Information (MSI).
		8764, 13089, 17314 kHz, J3E.	1630, 2230.	Maritime Safety Information (MSI).
		Ch. 22A, F3E.	1630, 1900, 2330.	Local Notice to Mariners and weather.
		4346 kHz, F3C.	0230, 0750, 1100, 1430.	Weather FAX*; 120/576.
		8682, 12730, 17151.2 kHz, F3C.	0230, 0750, 1100, 1430, 1930, 2300.	Weather FAX*; 120/576.
		22527 kHz, F3C.	1930, 2300.	Weather FAX*; 120/576.
		518 kHz, F1B.	0000, 0400, 0800, 1200, 1600, 2000.	NAVTEX (C).
*NOTE: Broadcast schedule at 1104, 2324.				
3661	Humboldt Bay, CA (NMC-11) U.S. Coast Guard.	2670 kHz, J3E.	0303, 1503.	Local Notice to Mariners and weather.
		Ch. 22A, F3E.	1615, 2315.	Local Notice to Mariners and weather.
3664	North Bend, OR (NOE) U.S. Coast Guard.	2670 kHz, J3E, Ch. 22A, F3E.	0603, 1803.	Local Notice to Mariners and weather.
3665	Astoria, OR (NMW) U.S. Coast Guard.	2670 kHz, J3E, Ch. 22A, F3E.	0533, 1733.	Local Notice to Mariners and weather.
		518 kHz, F1B.	0130, 0530, 0930, 1330, 1730, 2130.	NAVTEX (W).
3666	Portland, OR (NMW-44) U.S. Coast Guard.	Ch. 22A, F3E.	1745.	Local Notice to Mariners and weather.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3667	Port Angeles, WA (NOW) U.S. Coast Guard.	2670 kHz, J3E, Ch. 22A, F3E.	0615, 1815.	Local Notice to Mariners and weather.
3668	Seattle, WA (NMW-43) U.S. Coast Guard.	Ch. 22A, F3E.	0630, 1830.	Local Notice to Mariners and weather.
CANADA - PACIFIC				
3671	Victoria, B.C. (VAK).	162.475 MHz, Ch. 21B, F3E.	Continuous (interrupted during live broadcasts at 0510, 1510, 2110).	Local navigational warnings and weather.
3672	Comox, B.C. (VAC).	162.475, 162.55 MHz, Ch. 21B, F3E.	Continuous (interrupted during live broadcasts at 0420, 1520, 2120).	Local navigational warnings and weather.
3675	Tofino, B.C. (VAE).	2054 kHz, J3E, 162.4, 162.475, 162.55 MHz, Ch. 21B, F3E.	0050, 0650, 1250, 1850.	Local navigational warnings and weather.
		162.4, 162.475, 162.55 MHz, Ch. 21B, F3E.	Continuous (interrupted during live broadcasts).	Local navigational warnings and weather.
		518 kHz, F1B.	0110, 0510, 0910, 1310, 1710, 2110.	NAVTEX (H).
3677	Prince Rupert, B.C. (VAJ).	2054 kHz, J3E.	0105, 0705, 1305, 1905.	Local navigational warnings and weather.
		162.4, 162.475, 162.55 MHz, Ch. 21B, F3E.	Continuous.	Local navigational warnings and weather.
		518 kHz, F1B.	0030, 0430, 0830, 1230, 1630, 2030.	NAVTEX (D).
UNITED STATES - ALASKA				
LONG-RANGE WARNINGS: NAVAREA XII: Original reports to NAVAREA XII Coordinator, National Imagery and Mapping Agency, Attn: PTNM (Mail stop D-44). HYDROPAC: Original reports to National Imagery and Mapping Agency. LOCAL WARNINGS: Local Notice to Mariners: Original reports to nearest Coast Guard Station for relay to District Commander (oan).				
3692.5	Juneau, AK (NMJ) U.S. Coast Guard.	Ch. 22A, F3E.	0103, 0203, 0303, 0403, 1403, 1433, 1503, 1533.	Local Notice to Mariners and weather.
3695	Kodiak, AK (NOJ) U.S. Coast Guard.	6501 kHz, J3E.	0203, 1645.	Maritime Safety Information (MSI).
		Ch. 22A, F3E.	0133, 0233, 0533, 1433, 1603, 1803.	Local Notice to Mariners and weather.
		2054 kHz, F3C.	1000, 1600.	Weather and ice FAX*; 120/576.
		4298, 8459 kHz, F3C.	0400, 1000, 1600, 2200.	Weather and ice FAX*; 120/576.
		12412.5 kHz, F3C.	0400, 2200.	Weather and ice FAX*; 120/576.
		518 kHz, F1B.	0300, 0700, 1100, 1500, 1900 2300.	NAVTEX (J).
		518 kHz, F1B.	0340, 0740, 1140, 1540, 1940 2340.	NAVTEX (X). (Weather products previously broadcast from Adak.)
*NOTE: Broadcast schedule at 1727.				
3696.5	Valdez, AK U.S. Coast Guard.	Ch. 22A, F3E.	0115, 0133, 0715, 0733, 1315, 1333, 2115, 2133.	Local Notice to Mariners and weather.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
UNITED STATES - HAWAII				
LONG-RANGE WARNINGS: NAVAREA XII: Original reports to NAVAREA XII Coordinator, National Imagery and Mapping Agency, Attn: PTNM (Mail stop D-44). HYDROPAC: Original reports to National Imagery and Mapping Agency. LOCAL WARNINGS: Local Notice to Mariners: Original reports to nearest Coast Guard Station for relay to District Commander (oan).				
3703	Honolulu, HI (NMO) (NMO-2) U.S. Coast Guard.	8416.5, 12579, 22376 kHz, F1B.	0130, 2030.	Maritime Safety Information (MSI) (HF NBDP) (NAVAREA XII, HYDROPAC and weather).
		8416.5, 12579 kHz, F1B.	0730, 1330.	Maritime Safety Information (MSI) (HF NBDP) (NAVAREA XII, HYDROPAC and weather).
		6501, 8764 kHz, J3E.	0600, 1200.	Maritime Safety Information (MSI).
		8764, 13089 kHz, J3E.	0005, 1800.	Maritime Safety Information (MSI).
		2670 kHz, J3E.	0545, 1145, 1745, 2345.	Local Notice to Mariners.
		Ch. 22A, F3E.	0500, 0900, 1700, 2100.	Local Notice to Mariners and weather.
		518 kHz, F1B.	0040, 0440, 0840, 1240, 1640, 2040.	NAVTEX (O).
3703.5	Honolulu, HI (KVM70).	9982.5 kHz, F3C.	1132.	Weather FAX*; 120/576.
		11090 kHz, F3C.	0533, 1132, 1733.	Weather FAX*; 120/576.
		16135 kHz, F3C.	0533, 1733, 2320.	Weather FAX*; 120/576.
		23331.5 kHz, F3C.	2320.	Weather FAX*; 120/576.
*NOTE: Broadcast schedule at 1132, 2320.				
MADAGASCAR				
3706	Toliara (5RT).	416 kHz, A1A, A2A.	0440, 1640.	Local navigational warnings and weather in French.
		416 kHz, A1A, A2A.	0200, 0600, 1000, 1400, 1800, 2200.	Weather in French.
3707	Mahajanga (5RO).	476 kHz, A1A, A2A.	0500, 1630.	Local navigational warnings and weather in French.
		476 kHz, A1A, A2A.	0000, 0400, 0800, 1200, 1600, 2000.	Weather.
3708	Antseranana (5RL).	447 kHz, A1A, A2A.	0430, 1700.	Local navigational warnings and weather in French.
		447 kHz, A1A, A2A.	0200, 0600, 1000, 1400, 1800, 2200.	Weather.
3709	Taomasina (5RS).	476, 519 kHz, A1A, A2A.	0510, 0810, 1610.	Local navigational warnings and weather in French.
		8465 kHz, A1A.	0510, 0810.	Local navigational warnings in French.
		8734 kHz, A1A, 8767 kHz, A3E.	0510, 0810.	Weather in French.
		476, 519 kHz, A1A, A2A.	0000, 0400, 0800, 1200, 1600, 2000.	Weather in French.
MAURITIUS				
3710	Mauritius (3BM).	518 kHz, F1B.	0020, 0420, 0820, 1220, 1620, 2020.	NAVTEX (C).
3710.5	Port Louis (3BB).	4402 kHz, J3E.	0115, 0730, 1315, 1930.	Weather.
		4402 kHz, J3E.	0433, 1233, 1603.	Local navigational warnings.
		Ch. 14, F3E.	0205, 1405.	Weather.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
<b>SOMALIA</b>				
3712	Mogadiscio (6OR).	450 kHz, A1A.	0448, 0848, 1248, 1648.	Local navigational warnings.
<b>DJIBOUTI</b>				
3713	Djibouti (J2A).	464, 8682 kHz, A1A.	0430, 1700.	Local navigational warnings and weather.
		464, 12728 kHz, A1A.	0900.	Local navigational warnings and weather.
<b>EGYPT - RED SEA</b>				
3713.2	Quseir (SUK).	435.5 kHz, A1A.	0018, 0418, 0818, 1218, 1618, 2018.	Local navigational warnings.
		435.5 kHz, A1A.	1230.	Weather.
		518 kHz, F1B.	0330, 0730, 1130, 1530, 1930, 2330.	NAVTEX (V).
3713.4	Ismailia (Serapeum) (SUZ).	515.5 kHz, A1A.	0648, 1048, 1448, 1848.	Local navigational warnings.
		4255 kHz, A1A.	0648, 1848.	Local navigational warnings.
		8450, 12670.5 kHz, A1A.	1048, 1448.	Local navigational warnings.
		4209.5 kHz, F1B.	0750, 1150.	NAVTEX (X).
		518 kHz, F1B.	0350, 0750, 1150, 1550, 1950, 2350.	NAVTEX (X) (Red Sea and Gulf of Suez broadcasts).
<b>SAUDI ARABIA - RED SEA</b>				
3713.6	Jiddah (HZH).	436 kHz, A1A.	0118, 0518, 0918, 1318, 1718, 2118.	Local navigational warnings.
		1726 kHz, J3E.	0333, 0733, 1133, 1533, 1933, 2333.	Local navigational warnings.
		436 kHz, A1A.	0518, 0520, 1118, 1718, 1720, 2318.	Weather.
		1726 kHz, J3E.	0503, 0533, 1133, 1703, 1733, 2333.	Weather.
		518 kHz, F1B.	0110, 0510, 0910, 1310, 1710, 2110.	NAVTEX (H).
<b>OMAN</b>				
3713.8	Muscat (A4M).	442.5 kHz, A1A.	0518, 1618.	Local navigational warnings.
		518 kHz, F1B.	0200, 0600, 1000, 1400, 1800, 2200.	NAVTEX (M).
<b>QATAR</b>				
3713.9	Doha (A7D).	439 kHz, A1A.	0418, 0818, 1218, 1618.	Local navigational warnings and weather.
		2768 kHz, J3E, Ch. 24, F3E.	0433, 0833, 1233, 1633.	Local navigational warnings and weather.
		439 kHz, A1A.	0500, 1000, 1600.	Weather.
		2768 kHz, J3E, Ch. 24, F3E.	0503, 1003, 1603.	Weather.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
SAUDI ARABIA - PERSIAN GULF				
LOCAL WARNINGS: MENAS: Original reports to Middle Eastern Navigational Service, P.O. Box 66, Manama, Bahrain.				
3714.2	Dammam (HZG).	444 kHz, A1A, A2A.	0148, 0548, 0948, 1348, 1748, 2148.	Local navigational warnings.
		1780 kHz, J3E.	0303, 0703, 1103, 1503, 1903, 2303.	Local navigational warnings.
		444 kHz, A1A, A2A.	0525, 0548, 1148, 1725, 1748, 2348.	Weather.
		1780 kHz, J3E.	0503, 1103, 1703, 2303.	Weather.
		1780 kHz, J3E, Ch. 25, F3E.	0533, 1733.	Weather.
		8651, 12792 kHz, A1A.	0630, 1830.	Weather.
		518 kHz, F1B.	0100, 0500, 0900, 1300, 1700, 2100.	NAVTEX (G).
KUWAIT				
3714.4	Kuwait (9KK).	450 kHz, A1A, A2A.	0515, 1715.	Local navigational warnings.
		450 kHz, A1A, A2A, 2750 kHz, H3E.	0530, 1730.	Weather.
IRAN				
3715	Bandar Khomeyni (EQN).	Ch. 18, F3E.	0530, 1230.	Local navigational warnings and weather.
3715.1	Bushehr (EQM).	Ch. 18, F3E.	0530, 1230.	Local navigational warnings and weather.
		518 kHz, F1B.	0000, 0400, 0800, 1200, 1600, 2000.	NAVTEX (A).
3715.2	Bandar Abbas (EQI).	460, 8469 kHz, A1A.	0530, 1230.	Local navigational warnings and weather.
		Ch. 18, F3E.	0530, 1230.	Local navigational warnings.
		4210 kHz, F1B.	0730, 1430.	Maritime Safety Information (MSI) (HF NBDP).
		8416.5 kHz, F1B.	0330, 0530, 1230.	Maritime Safety Information (MSI) (HF NBDP).
		12579 kHz, F1B.	0830, 1030.	Maritime Safety Information (MSI) (HF NBDP).
		518 kHz, F1B.	0050, 0450, 0850, 1250, 1650, 2050.	NAVTEX (F).
3715.3	Chah Bahar (EQJ).	Ch. 18, F3E.	0530, 1230.	Local navigational warnings and weather.
BAHRAIN				
3716	Bahrain (A9M).	487 kHz, A1A, A2A.	0518, 0918, 1318, 1718.	Local navigational warnings.
		518 kHz, F1B.	0010, 0410, 0810, 1210, 1610, 2010.	NAVTEX (B).

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
PAKISTAN				
LONG-RANGE WARNINGS: NAVAREA IX: Includes the waters of the Red Sea, Persian Gulf, Suez Canal, Gulf of Oman and the Arabian Sea from Somalia to the India-Pakistan frontier. Original reports to Area Coordinator, NAVAREA IX, Hydrographer of the Pakistan Navy, Naval Headquarters, Karachi. The Middle East Navigational Aid Service is Subarea Coordinator. LOCAL WARNINGS: For the coast of Pakistan. Original reports to the Hydrographer of the Pakistan Navy.				
3720	Karachi (ASK).	500 kHz, A2A.	0030, 0430, 1230, 2030.	Local navigational warnings and weather.
		466, 484, 13024 kHz, A1A, 500 kHz, A2A.	0830.	Local navigational warnings and weather (weather only on 484 kHz).
		466, 484, 8694 kHz, A1A, 500 kHz, A2A.	1630.	Local navigational warnings and weather (weather only on 484 kHz).
		500 kHz, A2A.	Every hour +00m.	Weather.
		518 kHz, F1B.	0230, 0630, 1030, 1430, 1830, 2230.	NAVTEX (P).
3721	Karachi Naval (AQP).	2457.5, 6390, 8490, 13011, 17093.6 kHz, A1A.	0400, 1200.	NAVAREA IX.
		2457.5, 6390, 8490, 13011, 17093.6 kHz, A1A.	0200, 0600, 1000, 1400, 1800, 2200.	Navigational warnings and weather.
INDIA				
LONG-RANGE WARNINGS: NAVAREA VIII: Includes the waters of the Indian Ocean from 10°30'S on the African coast to 55°E, thence south to 30°S and east to 95°E. Original reports to NAVAREA VIII Coordinator, Chief Hydrographer to the Government of India, Dehra Dun.				
3722	Bombay Naval (VTG).	2072, 4268, 6467, 8634, 12808.5, 16938, 22378 kHz, A1A.	0500, 0900, 1500.	NAVAREA VIII.
		2072, 4268, 6467, 8634, 12808.5, 16938, 22378 kHz, A1A.	1215 (Sun.).	NAVAREA VIII.
		4268, 8634, 12808.5, 16938, 22378 kHz, A1A.	0900.	Weather.
		2072, 4268, 6467, 8634, 12808.5 kHz, A1A.	1500.	Weather.
3722.05	Bombay (VWB).	521, 8630, 12710 kHz, A1A.	0648, 1548.	Local navigational warnings.
		521, 8630, 12710 kHz, A1A.	0420, 0820, 1220, 1620, 2020, 2320.	Weather.
		500 kHz, A2A, 8630, 12710 kHz, A1A.	0448, 0848, 1248, 1648, 2048, 2348.	Weather.
		521 kHz, A1A.	0618, 0848, 1518, 1648.	Weather.
		500 kHz, A2A, 8630, 12710 kHz, A1A.	Every hour +00m.	Weather.
		518 kHz, F1B.	0100, 0500, 0900, 1300, 1700, 2100.	NAVTEX (G).
3722.1	Vishakhapatnam (VWV).	474 kHz, A1A.	0548, 1548.	Local navigational warnings.
		474, 500 kHz, A1A.	0050, 0550, 0950, 1350, 1850, 2150.	Weather.
		474 kHz, A1A.	Every hour +00m.	Weather.
3722.2	Vishakhapatnam Naval (VTP).	2295, 4238, 6418, 8646, 12840, 16695 kHz, A1A.	0500, 0900, 1500.	NAVAREA VIII.
		2295, 4238, 6418, 8646, 12840, 16695 kHz, A1A.	1215 (Sun.).	NAVAREA VIII.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3723	Kandla (VWK).	440 kHz, A1A.	0648, 1548.	Local navigational warnings.
		440 kHz, A1A.	0420, 0820, 1220, 1620, 2020, 2320.	Weather.
		440 kHz, A1A.	Every hour +00m.	Weather.
3725	Ratnagiri (VWZ).	420.5 kHz, A1A.	0648, 1548.	Local navigational warnings.
		420.5 kHz, A1A.	0420, 0820, 1220, 1620, 2020, 2320.	Weather.
		420.5 kHz, A1A.	Every hour +00m.	Weather.
3726	Goa (VWG).	417.5 kHz, A1A.	0648, 1548.	Local navigational warnings.
		417.5 kHz, A1A.	0420, 0820, 1220, 1620, 2020, 2320.	Weather.
		417.5 kHz, A1A.	Every hour +00m.	Weather.
3727	Mangalore (VWL).	438 kHz, A1A.	0648, 1548.	Local navigational warnings.
		438 kHz, A1A.	0420, 0820, 1220, 1620, 2020, 2320.	Weather.
		438 kHz, A1A.	Every hour +00m.	Weather.
3728	Cochin (VWN).	460 kHz, A1A.	0648, 1548.	Local navigational warnings.
		460 kHz, A1A.	0420, 0820, 1220, 1620, 2020, 2320.	Weather.
		460 kHz, A1A.	Every hour +00m.	Weather.
3728.1	Tuticorin (VWT).	487 kHz, A1A.	0648, 1548.	Local navigational warnings.
		487 kHz, A1A.	0050, 0550, 0950, 1350, 1850, 2150.	Weather.
		487 kHz, A1A.	Every hour +00m.	Weather.
3728.2	Madras (VWM).	515 kHz, A1A.	0548, 1548.	Local navigational warnings.
		515 kHz, A1A.	0050, 0550, 0950, 1350, 1850, 2150.	Weather.
		500 kHz, A2A, 4301, 8674.4 kHz, A1A.	0050, 1350, 1850, 2150.	Weather.
		500 kHz, A2A, 8674.4, 12718.5 kHz, A1A.	0550, 0950.	Weather.
		500 kHz, A2A.	Every hour +00m.	Weather.
		518 kHz, F1B.	0230, 0630, 1030, 1430, 1830, 2230.	NAVTEX (P).
		500 kHz, A2A.	Every hour +00m.	Weather.
3728.3	Calcutta (VWC).	470, 8526 kHz, A1A.	0548.	Local navigational warnings.
		470, 4286 kHz, A1A.	1548.	Local navigational warnings.
		500 kHz, A2A, 8526 kHz, A1A.	0018, 0518, 0848, 1318, 1818, 2118.	Weather.
		470 kHz, A1A.	0050, 0550, 0950, 1350, 1850, 2150.	Weather.
		470 kHz, A1A.	0848, 0918, 1418, 1818.	Weather.
		4286 kHz, A1A.	1818.	Weather.
		500 kHz, A2A, 8526 kHz, A1A.	Every hour +00m.	Weather.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3729	Port Blair (VWP).	442 kHz, A1A.	0548, 1548.	Local navigational warnings.
		442 kHz, A1A.	0100, 0600, 1000, 1400, 1900, 2200.	Weather.
		442 kHz, A1A.	Every hour +00m.	Weather.
<b>SRI LANKA</b>				
3730	Colombo (4PB).	482 kHz, A1A, A2A, 8473 kHz, A1A.	0600, 0900, 1300.	Local navigational warnings (weather at 0600, 1300).
		482 kHz, A1A, A2A, 8473 kHz, A1A.	0530, 1300.	Weather.
<b>BANGLADESH</b>				
3731	Chittagong (S3D).	466, 484, 500 kHz, A1A.	0850, 1650.	Local navigational warnings.
		466, 484, 500, 8694, 13056 kHz, A1A, 2182 kHz, A3E.	0050, 0450, 0850, 1250, 1650, 2050.	Weather.
		466, 484, 500, 8694, 13056 kHz, A1A, 2182 kHz, A3E.	Every hour +00m.	Weather.
<b>BURMA</b>				
3733	Rangoon (XYR).	460, 500, 8710 kHz, A1A, A2A.	0500, 0900, 1700.	Local navigational warnings (weather at 0900, 1700).
		460, 500, 8710 kHz, A1A, A2A.	Every hour +00m.	Weather.
<b>MALAYSIA - PENINSULAR</b>				
3734	Pinang (9MG).	522.5 kHz, A1A.	0148, 0548, 0948, 1348, 1748, 2148.	Local navigational warnings and weather.
		518 kHz, F1B.	0320, 0720, 1120, 1520, 1920, 2320.	NAVTEX (U).
3735	Singapore (9VG).	Ch. 09, F3E.	0100, 0300, 0500, 0700, 0900, 1100, 1300, 1500, 1700, 1900, 2100, 2300.	Local navigational warnings and weather.
		518 kHz, F1B.	0020, 0420, 0820, 1220, 1620, 2020.	NAVTEX (C).
<b>THAILAND</b>				
3736	Bangkok (HSA) (HSJ).	526 kHz, A1A.	0118, 0448, 0848, 1218.	Local navigational warnings.
		526, 7955, 8573.5, 8686 kHz, A1A.	0150, 0750, 1150.	Weather.
		6765 kHz, J3E.	0000, 0300, 0600, 0900, 1200, 1500, 1800, 2100.	Weather.
		518 kHz, F1B.	0050, 0450, 0850, 1250, 1650, 2050.	NAVTEX (F).
<b>VIETNAM</b>				
3737	Hai Phong (XVG).	8470 kHz, A1A.	0018, 0618, 1218.	Local navigational warnings.
		8470 kHz, A1A.	0018, 1218.	Weather.
		6230 kHz, J3E.	0048, 1248.	Weather in Vietnamese.
3737.5	Da Nang (XVT).	518 kHz, F1B.	0230, 0630, 1030, 1430, 1830, 2230.	NAVTEX (P).
3738	Ho Chi Minh City (XVS).	460, 8590 kHz, A1A.	0148, 0748, 1148, 2148.	Local navigational warnings.
		500 kHz, A1A.	0018, 0418, 0818, 1218.	Local navigational warnings.
		460, 8590 kHz, A1A.	0048, 1148.	Weather.
		518 kHz, F1B.	0350, 0750, 1150, 1550, 1950, 2350.	NAVTEX (X).



## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
<b>HONG KONG (CHINA)</b>				
3739	Hong Kong.	518 kHz, F1B.	0150, 0550, 0950, 1350, 1750, 2150.	NAVTEX (L).
<b>CHINA</b>				
3740	Guangzhou (XSQ).	445, 4288, 6382, 8458, 12973 kHz, A1A.	0248, 0548, 0848, 1148, 1748, 2048, 2348.	Local navigational warnings.
		445, 6382, 8458, 12973 kHz, A1A.	0230, 0730.	Local navigational warnings in Chinese.
		445, 4288, 8458, 12973 kHz, A1A.	1400.	Local navigational warnings in Chinese.
		6316, 8435, 16880, 22420 kHz, F1B.	0200, 0630.	Local navigational warnings in Chinese.
		4212, 8435, 12613, 16880 kHz, F1B.	1330.	Local navigational warnings in Chinese.
		445, 6382, 8458, 12973 kHz, A1A.	0700.	Local navigational warnings.
		445, 6382, 8458, 12973 kHz, A1A.	0030.	Weather.
		445, 4288, 8458, 12973 kHz, A1A.	1230.	Weather.
		445, 6382, 8458, 12973 kHz, A1A.	0100.	Weather in Chinese.
		445, 4288, 8458, 12973 kHz, A1A.	1300.	Weather in Chinese.
		445, 4288, 6382, 8458, 12973 kHz, A1A.	0248, 0448, 1048, 1448, 1648, 2048, 2248.	Weather.
		518 kHz, F1B.	0210, 0610, 1010, 1410, 2210.	NAVTEX (N).
3740.1	Sanya (XSI).	518 kHz, F1B.	0200, 0600, 1000, 1400, 2200.	NAVTEX (M).
3740.2	Tianjin (XSV).	445, 8600 kHz, A1A.	Every even hour +18m.	Local navigational warnings.
		445, 8600, 12969 kHz, A1A.	0600, 2200.	Ice.
		445, 4283, 8600, 12969 kHz, A1A.	1300.	Ice.
3740.3	Dalian (XSZ).	462 kHz, A1A, A2A, 6333.5, 8694 kHz, A1A.	0050, 1050.	Weather.
		518 kHz, F1B.	0250, 0650, 1050, 1450, 2250.	NAVTEX (R).
3740.4	Fuzhou (XSL).	518 kHz, F1B.	0220, 0620, 1020, 1420, 2220.	NAVTEX (O).
3741	Shanghai (XSG).	522.5, 4290, 6454, 8487, 12954, 17002.4 kHz, A1A.	0200.	Local navigational warnings.
		522.5, 4290, 6454, 8487, 12954, 17002.4 kHz, A1A.	0300, 0900.	Weather.
		458 kHz, A1A, A2A, 522.5, 4290, 6454, 8487, 12954 kHz, A1A.	0000, 0300, 0500, 0900, 1200, 1500, 1800, 2100.	Weather.
		518 kHz, F1B.	0240, 0640, 1040, 1440, 2240.	NAVTEX (Q).
<b>REPUBLIC OF KOREA</b>				
3742	Inchon (HLC).	464 kHz, A2A.	0018, 0818.	Local navigational warnings and weather.
		2284 kHz, A3E.	0003.	Local navigational warnings.
3742.5	Cheju (HLE).	2583 kHz, A1A, 2299 kHz, J3E.	0902, 1702.	Local navigational warnings.
3743	Mokpo (HLM).	470 kHz, A2A.	0018, 0818.	Local navigational warnings and weather.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3744	Kunsan (HLN).	484 kHz, A2A.	0018, 0818.	Local navigational warnings and weather.
		2507 kHz, A3E.	0403.	Local navigational warnings.
3744.5	Pyonsan.	490 kHz, F1B.	0140, 0540, 0940, 1340, 1740, 2140.	NAVTEX (K) in Korean.
		518 kHz, F1B.	0340, 0740, 1140, 1540, 1940, 2340.	NAVTEX (W).
3745	Kangnung (HLK).	476 kHz, A2A.	0018, 0818.	Local navigational warnings and weather.
		2836 kHz, J3E.	0903.	Local navigational warnings.
3746	Busan (HLP).	434 kHz, A2A.	0018, 0818.	Local navigational warnings and weather.
3746.5	Chukpyon.	490 kHz, F1B.	0130, 0530, 0930, 1330, 1730, 2130.	NAVTEX (J) in Korean.
		518 kHz, F1B.	0330, 0730, 1130, 1530, 1930, 2330.	NAVTEX (V).
3747	Ullung (HLU).	458 kHz, A2A.	0018, 0818.	Local navigational warnings and weather.
3747.5	Yeosu (HLY).	447 kHz, A2A.	0018, 0818.	Local navigational warnings and weather.
<b>RUSSIA - PACIFIC</b>				
<p>LONG-RANGE WARNINGS:  NAVAREA XIII:  Includes the waters of the Sea of Okhotsk, North Pacific and Bering Sea north of 45°N and east to the International Date Line. Original reports to NAVAREA XIII Coordinator, Chief, Head Department of Navigation and Oceanography, St. Petersburg.  NAVIP:  World-wide navigational warnings.  LOCAL WARNINGS:  PRIP.</p>				
3748	Vladivostok (UFL) (UKA) (UFZ).	4241, 12870 kHz, A1A.	0030.	Local navigational warnings in Russian (selected warnings are repeated in English).
		4241, 12870 kHz, A1A.	0630, 2200.	Weather in Russian.
		3630, 8595, 12729, 22656.5 kHz, A1A, F1B.	0900, 2300.	NAVAREA XIII warnings; local navigational warnings in Russian (selected coastal warnings are repeated in English) and weather.
		3630, 8595, 12729, 22656.5 kHz, A1A, F1B.	0900.	Ice in Russian.
		4241, 6430 kHz, A1A.	1730.	Local navigational warnings in Russian (selected warnings are repeated in English).
3749.5	Petropavlovsk-Kamchatskiy (UBE) (UBE-2).	4216.5, 12601.5, 16837 kHz, F1B.	0000.	NAVAREA XIII warnings; local navigational warnings in Russian (selected warnings are repeated in English), weather and ice in Russian.
		4216.5, 8421.5, 12601.5, 16837 kHz, F1B.	0900.	Local navigational warnings in Russian (selected warnings are repeated in English), weather and ice in Russian.
		4271, 6370, 13000 kHz, A1A.	1000.	Local navigational warnings in Russian (selected warnings are repeated in English), weather and ice in Russian.
		6370, 13000 kHz, A1A.	2300.	NAVAREA XIII warnings; local navigational warnings in Russian (selected warnings are repeated in English), weather and ice in Russian.
3750	Kholmsk (UDB-2) (UFO).	416, 4212, 8422.5, 12598 kHz, F1B.	0825.	Weather and ice in Russian.
		8422.5, 12598 kHz, F1B.	2230.	NAVAREA XIII warnings; weather and ice in Russian.
		518 kHz, F1B.	0010, 0410, 0810, 1210, 1610, 2010.	NAVTEX (B).

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
<b>JAPAN</b>				
<p>LONG-RANGE WARNINGS:  NAVAREA XI:  Includes the waters of the western North Pacific from the Equator to 45°N, east to 180°. Original reports to NAVAREA XI Coordinator, Chief Hydrographer, Japan Coast Guard, Tokyo.  Maritime Safety Information broadcasts--Storm warnings, weather messages and navigational warnings are announced by Japan Coast Guard (JCG) CRS on VHF Ch. 16, before being broadcast on the scheduled VHF channel number.</p>				
3753	Kushiro (JNX).	Ch. 12, 16, F3E.	0125, 0725.	Local navigational warnings.
		Ch. 12, 16, F3E.	0103, 0703.	Local navigational warnings.
		424 kHz, F1B.	0108, 0508, 0908, 1308, 1708, 2108.	NAVTEX (K) in Japanese.
		518 kHz, F1B.	0140, 0540, 0940, 1340, 1740, 2140.	NAVTEX (K).
3754	Shiogama (JNN).	Ch. 12, 16, F3E.	0125, 0725.	Local navigational warnings.
		Ch. 12, 16, F3E.	0133, 0733.	Local navigational warnings.
3757	Yokohama (JGC).	Ch. 12, 16, F3E.	0120, 0720.	Local navigational warnings.
		424 kHz, F1B.	0034, 0434, 0834, 1234, 1634, 2034.	NAVTEX (I) in Japanese.
		518 kHz, F1B.	0120, 0520, 0920, 1320, 1720, 2120.	NAVTEX (I).
3760	Nagoya (JNT).	Ch. 12, 16, F3E.	0110, 0710.	Local navigational warnings.
3764	Kobe (JGD).	Ch. 12, 16, F3E.	0133, 0733.	Local navigational warnings.
3766	Hiroshima (JNE).	Ch. 12, 16, F3E.	0115, 0715.	Local navigational warnings.
3767	Kagoshima (JNJ).	Ch. 12, 16, F3E.	0120, 0720.	Local navigational warnings.
3769	Ishigaki (JNG).	Ch. 12, 16, F3E.	0133, 0733.	Local navigational warnings.
3772	Tanabe (JNH).	Ch. 12, 16, F3E.	0103, 0703.	Local navigational warnings.
3772.2	Kochi (JNO).	Ch. 12, 16, F3E.	0125, 0725.	Local navigational warnings.
3772.4	Moji (JNR).	Ch. 12, 16, F3E.	0103, 0703.	Local navigational warnings.
		424 kHz, F1B.	0017, 0417, 0817, 1217, 1617, 2017.	NAVTEX (H) in Japanese.
		518 kHz, F1B.	0110, 0510, 0910, 1310, 1710, 2110.	NAVTEX (H).
3772.5	Sasebo (JNK).	Ch. 12, 16, F3E.	0115, 0715.	Local navigational warnings.
3772.8	Niigata (JNV).	Ch. 12, 16, F3E.	0115, 0715.	Local navigational warnings.
3773	Maizuru (JNC).	Ch. 12, 16, F3E.	0120, 0720.	Local navigational warnings.
3775	Otaru (JNL).	Ch. 12, 16, F3E.	0133, 0733.	Local navigational warnings.
		Ch. 12, 16, F3E.	0110, 0710.	Local navigational warnings.
		424 kHz, F1B.	0051, 0451, 0851, 1251, 1651, 2051.	NAVTEX (J) in Japanese.
		518 kHz, F1B.	0130, 0530, 0930, 1330, 1730, 2130.	NAVTEX (J).

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3777	Naha (JNB).	Ch. 12, 16, F3E.	0110, 0710.	Local navigational warnings.
		424 kHz, F1B.	0000, 0400, 0800, 1200, 1600, 2000.	NAVTEX (G) in Japanese.
		518 kHz, F1B.	0100, 0500, 0900, 1300, 1700, 2100.	NAVTEX (G).
<b>TAIWAN</b>				
3785	Chi-lung (XSX).	420, 8445, 8506 kHz, A1A, 8428* kHz, F1B.	0430, 1030, 1630, 2230.	Weather.
		438 kHz, A1A.	Every even hour +18m, +48m.	Local navigational warnings.
		490 kHz, F1B.	0330, 0730, 1130, 1530, 1930, 2330.	NAVTEX (P) in Chinese.
		490 kHz, F1B.	0350, 0750, 1150, 1550, 1950, 2350.	NAVTEX (P) in Chinese.
		4209.5 kHz, F1B.	0350, 0730, 1150, 1530, 1950, 2330.	NAVTEX (P) in Chinese.
		518, 4209.5 kHz, F1B.	0230, 0630, 1030, 1430, 1830, 2230.	NAVTEX (P).
*NOTE: Broadcast announced through DSC 8414.5 kHz.				
3787	Hua-lien (XSY).	523, 8546, 8700 kHz, A1A.	Every even hour +18m, +48m.	Local navigational warnings.
		523, 8546, 8700 kHz, A1A.	0530, 1130, 1730, 2330.	Weather.
3790	Kao-Hsiung (XSW).	448, 8582, 8632 kHz, A1A.	Every odd hour +18m, +48m.	Local navigational warnings.
		448, 8582, 8632 kHz, A1A.	0500, 1100, 1700, 2300.	Weather.
3790.5	Tai-Chung (XSW2).	476, 8511 kHz, A1A.	Every even hour +18m, +48m.	Local navigational warnings.
<b>PHILIPPINES</b>				
3792	Polo (DZCA).	1170 kHz, A3E.	0030, 0930.	Local navigational warnings.
3792.5	Caloocan (DWWW).	630 kHz, A3E.	0900, 2100.	Local navigational warnings.
3793	Malolos (DZRP).	918 kHz, A3E.	0000, 1200, 1400, 2000.	Local navigational warnings.
3794	Valenzuela (DZFM).	738 kHz, A3E.	0900, 2100.	Local navigational warnings.
3795	Manila (DZS-4).	8776.8 kHz, A3E.	0030, 0330, 0630, 0930, 1230.	Local navigational warnings and weather.
		Ch. 09, 16, 20, F3E.	0030, 0330, 0630, 0930, 1230.	Weather.
3795.5	Mandaluyong (DWAD).	1098 kHz, A3E.	0900, 2100.	Local navigational warnings.
3796	Lucena (DZLT).	1188 kHz, A3E.	1030, 2230.	Local navigational warnings.
3797	Laoag (DZJC).	900 kHz, A3E.	0900, 2100.	Local navigational warnings.
3798	Puerto Princesa (DYPR).	783 kHz, A3E.	0900, 2100.	Local navigational warnings.
3799	Davao (DXMC).	819 kHz, A3E.	1030, 2230.	Local navigational warnings.
3801	Iloilo (DYRP).	1017 kHz, A3E.	1030, 2230.	Local navigational warnings.
3802	Daet (DZMD).	1161 kHz, A3E.	1030, 2230.	Local navigational warnings.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
<b>MALAYSIA - SABAH</b>				
3803	Sandakan.	518 kHz, F1B.	0300, 0700, 1100, 1500, 1900, 2300.	NAVTEX (S).
<b>MALAYSIA - SARAWAK</b>				
3805	Miri (9WW-21).	485 kHz, A1A.	0000, 0100, 0400, 0500, 0800, 0900, 2300.	Local navigational warnings.
		518 kHz, F1B.	0310, 0710, 1110, 1510, 1910, 2310.	NAVTEX (T).
3810	Kuching (9WW-2).	485, 8522 kHz, A1A.	0148, 0548, 0948, 1348, 1748, 2148.	Local navigational warnings and weather.
<b>INDONESIA - SUMATERA</b>				
3816	Dumai (PKP).	448, 500 kHz, A1A..	Continuous.	Local navigational warnings.
		6337 kHz, A1A.	0400, 0800, 1200.	Local navigational warnings.
		8457 kHz, A1A.	0100, 0600, 1000, 1300.	Local navigational warnings.
		12682.5 kHz, A1A.	0230, 0700.	Local navigational warnings.
		17184.8 kHz, A1A.	0500, 0900.	Local navigational warnings.
		2182, 3180, 6215.5, 6515.7 kHz, R3E.	Continuous.	Local navigational warnings.
		8765.4 kHz, R3E.	0100, 0800.	Local navigational warnings.
		13125.6 kHz, R3E.	0400, 1000.	Local navigational warnings.
3817	Belawan (PKB).	474, 500 kHz, A1A.	Continuous.	Local navigational warnings.
		4295 kHz, A1A.	0100, 0400, 0700, 1500.	Local navigational warnings.
		8686 kHz, A1A.	0300, 0600, 0900, 1230.	Local navigational warnings.
		12970.5 kHz, A1A.	0000, 0600.	Local navigational warnings.
		16861.7 kHz, A1A.	0200, 1100.	Local navigational warnings.
		2182, 3180, 6215.5 kHz, R3E.	Continuous.	Local navigational warnings.
		6515.7 kHz, R3E.	0730.	Local navigational warnings.
		8746.8 kHz, R3E.	0300, 0930.	Local navigational warnings.
3819	Palembang (PKC).	448, 500 kHz, A1A.	0000.	Local navigational warnings.
		6491.5 kHz, A1A.	0000, 0500, 0800, 1230.	Local navigational warnings.
		8437 kHz, A1A.	0100, 0500, 0900, 1130.	Local navigational warnings.
		2182, 2690 kHz, R3E.	0230, 0430, 0700, 1200.	Local navigational warnings.
		6215.5 kHz, R3E.	0100, 0500, 0900, 1300.	Local navigational warnings.
		8808.8 kHz, R3E.	0200, 0600, 1000.	Local navigational warnings.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
INDONESIA - JAVA				
3820	Jakarta (PKX).	470, 500 kHz, A1A.	Continuous.	Local navigational warnings.
		8542, 12970.5 kHz, A1A.	0200, 1000, 1800.	Local navigational warnings.
		16861.7 kHz, A1A.	0400, 1200, 2000.	Local navigational warnings.
		22431 kHz, A1A.	0000, 0600, 1400, 2200.	Local navigational warnings.
		2182, 2690, 6215.5, 6506.4, 6218.6 kHz, R3E.	Continuous.	Local navigational warnings.
		8753, 13128.7 kHz, R3E.	0000.	Local navigational warnings.
		22698.3 kHz, R3E.	2000.	Local navigational warnings.
		8542, 12970.5 kHz, A1A, 2690 kHz, R3E.	1100.	Weather.
		518 kHz, F1B.	0040, 0440, 0840, 1240, 1640, 2040.	NAVTEX (E).
3824	Surabaya (PKD).	430, 500 kHz, A1A.	Continuous.	Local navigational warnings.
		4238 kHz, A1A.	0230.	Local navigational warnings.
		8461 kHz, A1A.	0200, 0730.	Local navigational warnings.
		12704.5 kHz, A1A.	0000, 1100.	Local navigational warnings.
		16861.7 kHz, A1A.	0100, 1000.	Local navigational warnings.
		2182 kHz, R3E.	Continuous.	Local navigational warnings.
		4379.5, 6215.5 kHz, R3E.	0000.	Local navigational warnings.
		8796.4 kHz, R3E.	0100, 0630, 0900.	Local navigational warnings.
		13134.9 kHz, R3E.	0100, 0500, 1000.	Local navigational warnings.
INDONESIA - SULAWESI				
3830	Makasar (PKF).	465, 500 kHz, A1A.	Continuous.	Local navigational warnings.
		4295 kHz, A1A.	0200, 0900.	Local navigational warnings.
		8686 kHz, A1A.	0100, 0400, 0630, 1030, 1200.	Local navigational warnings.
		12682.5 kHz, A1A.	0430, 1000, 1230.	Local navigational warnings.
		4397.7 kHz, R3E.	0030, 0300.	Local navigational warnings.
		6215.5 kHz, R3E.	0330, 1100.	Local navigational warnings.
		8802.6 kHz, R3E.	0000, 0600.	Local navigational warnings.
		13100.8 kHz, R3E.	0730, 1330.	Local navigational warnings.
		518 kHz, F1B.	0030, 0430, 0830, 1230, 1630, 2030.	NAVTEX (D).
3832	Bitung (PKM).	438, 500 kHz, A1A.	Continuous.	Local navigational warnings.
		6428.5 kHz, A1A.	0600, 1100.	Local navigational warnings.
		8694 kHz, A1A.	0100, 0500, 0900, 1300.	Local navigational warnings.
		12704.5 kHz, A1A.	0200, 1000, 1400.	Local navigational warnings.
		2182, 2690 kHz, R3E.	0000, 0400, 0800, 1200, 1400.	Local navigational warnings.
		2182 kHz, R3E.	1000.	Local navigational warnings.
		6215.5 kHz, R3E.	0100, 0500, 0900, 2000.	Local navigational warnings.
		8808.8 kHz, R3E.	0230, 0700, 1100.	Local navigational warnings.

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
INDONESIA - MOLUCCAS				
3836	Amboina (PKE).	470, 500 kHz, A1A.	Continuous.	Local navigational warnings.
		8473 kHz, A1A.	0200, 0900.	Local navigational warnings.
		12682.5 kHz, A1A.	0000, 0800.	Local navigational warnings.
		17184.8 kHz, A1A.	0600, 1200.	Local navigational warnings.
		2182, 2690 kHz, R3E.	0000.	Local navigational warnings.
		6215 kHz, R3E.	0700, 1200.	Local navigational warnings.
		8794 kHz, R3E.	0300, 2300.	Local navigational warnings.
		518 kHz, F1B.	0010, 0410, 0810, 1210, 1610, 2010.	NAVTEX (B).
INDONESIA - IRIAN JAYA				
3840	Jayapura (PNK).	465, 500 kHz, A1A.	2200, 0000 (Mon.-Sat.), 0000, 0700 (Sun., hol.).	Local navigational warnings.
		8694 kHz, A1A.	0000, 0300 (Mon.-Sat.), 0000, 0700 (Sun., hol.).	Local navigational warnings.
		12682.5 kHz, A1A.	0100, 0530, 0900 (Mon.-Sat.), 0100, 0900 (Sun., hol.).	Local navigational warnings.
		17074.4 kHz, A1A.	0200, 0700 (Mon.-Sat.), 0200 (Sun., hol.).	Local navigational warnings.
		2182 kHz, R3E.	2200, 0000.	Local navigational warnings.
		3180 kHz, R3E.	2200, 0000 (Mon.-Sat.), 0200 (Sun., hol.).	Local navigational warnings.
		6215.5 kHz, R3E.	2200 (Mon.-Sat.), 2300, 0700 (Sun., hol.).	Local navigational warnings.
		6227 kHz, R3E.	2200, 0000, 0700 (Mon.-Sat.), 0000, 0700, 0900 (Sun., hol.).	Local navigational warnings.
		6510 kHz, R3E.	2200, 0000, 0700.	Local navigational warnings.
		8800 kHz, R3E.	0100, 0400, 0700, 1000 (Mon.-Sat.), 0200, 0800 (Sun., hol.).	Local navigational warnings.
		13110 kHz, R3E.	0000, 0300, 0600, 0900.	Local navigational warnings.
		518 kHz, F1B.	0000, 0400, 0800, 1200, 1600, 2000.	NAVTEX (A).
PAPUA NEW GUINEA				
3866	Port Moresby (P2M).	484 kHz, A2A, 6351.5, 13042 kHz, A1A.	0100, 0900.	Local navigational warnings and weather.
		4407, 6515.7 kHz, J3E.	0603, 2203.	Local navigational warnings and weather.
		484 kHz, A2A, 6351.5, 13042 kHz, A1A.	Every odd hour +00m.	Weather.
		4407, 6515.7 kHz, J3E.	Every even hour +03m.	Weather.
AUSTRALIA				
LONG-RANGE WARNINGS: NAVAREA X: Includes the waters surrounding Australia and the Solomon Islands south to Antarctica bound on the west by 80°E and on the east by 170°E south to the Tasman Sea and 160°E south to Antarctica. Original reports to RCC Australia, through any Australian Coast Radio Station (CRS). LOCAL WARNINGS: AUSCOAST: Original reports to RCC Australia.				
3876	Cairns.	8176 kHz, J3E.	1257, 2357.	Maritime Safety Information (MSI).
3876.5	Gladstone.	8176 kHz, J3E.	1157, 2257.	Maritime Safety Information (MSI).

## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
3877	Penta Comstat, Firefly (VZX).	4483, 6522, 8713 kHz, J3E.	0225, 0625, 0925, 0935, 2125, 2335.	Weather.
		4483, 6522, 8713 kHz, J3E.	0935.	NAVAREA X warnings.
		6522, 8713 kHz, J3E.	0635, 0655, 2135.	Weather.
		6522, 8713 kHz, J3E.	0635, 2135.	Local navigational warnings.
		6522, 8713, 13176 kHz, J3E.	0235.	Weather.
		8713, 13716 17365 kHz, J3E.	2335.	NAVAREA X warnings and weather.
		8713, 13716, 17365, 22822 kHz, J3E.	0700, 2200.	Weather.
3882	Sydney.	8176 kHz, J3E.	0057, 1357.	Maritime Safety Information (MSI).
		Ch. 67, F3E.	0733, 2133.	Local navigational warnings and weather.
3883	Melbourne.	8176 kHz, J3E.	0257, 2157.	Maritime Safety Information (MSI).
3884	Hobart.	8176 kHz, J3E.	0557.	Maritime Safety Information (MSI).
3885	Adelaide.	8176 kHz, J3E.	0357, 0757.	Maritime Safety Information (MSI).
3886	Perth.	8176 kHz, J3E.	0657, 1057.	Maritime Safety Information (MSI).
		Ch. 16, 67, F3E.	1118, 2318.	Local navigational warnings and weather.
3892	Port Hedland.	8176 kHz, J3E.	0457, 0857.	Maritime Safety Information (MSI).
3900	Darwin.	8176 kHz, J3E.	0157, 0957.	Maritime Safety Information (MSI).
NEW ZEALAND				
LONG-RANGE WARNINGS: NAVAREA XIV: Includes the waters of the South Pacific from the Equator to Antarctica bound on the west by 170°E south to the Tasman Sea and 160°E south to Antarctica and bound on the east by 120°W. Original reports to the nearest coast radio station or by mail to NAVAREA XIV Coordinator, Hydrographer, RNZN, Auckland.				
3904	Taupo Maritime Radio (ZLM).	2207, 4146, 6224 kHz, J3E.	0133, 0533, 1333, 1733 (1 hr. earlier when daylight savings in effect).	Local navigational warnings and weather.
		6224, 12356 kHz, J3E.	0303, 0903, 1503, 2103 (1 hr. earlier when daylight savings in effect).	NAVAREA XIV and weather.
		8297, 16531 kHz, J3E.	0333, 0933, 1533, 2133 (1 hr. earlier when daylight savings in effect).	NAVAREA XIV and weather.
		2207, 4146, 6224 kHz, J3E.	0803, 1203, 2003 (1 hr. earlier when daylight savings in effect).	Weather.
		Ch. 67, 68, 71, F3E.	0533, 0733, 1033, 1333, 1733, 2133 (1 hr. earlier when daylight savings in effect).	Local navigational warnings and weather.
GUAM				
3913	Guam (NRV) U.S. Coast Guard.	12579, 16806.5, 22376 kHz, F1B.	0230, 0500, 0900, 1500, 1900, 2315.	Maritime Safety Information (MSI) (HF NBDP) (HYDROPAC at 0230, 0900).
		2670 kHz, J3E.	0705, 2205.	Local Notice to Mariners and weather.
		13089 kHz, J3E.	0330, 2130.	Maritime Safety Information (MSI).
		6501 kHz, J3E.	0930, 1530.	Maritime Safety Information (MSI).
		Ch. 22A, F3E.	0900, 2100.	Local Notice to Mariners and weather.
		518 kHz, F1B.	0100, 0500, 0900, 1300, 1700, 2100.	NAVTEX (V).



## RADIO NAVIGATIONAL WARNINGS

(1) No.	(2) Name	(3) Frequency	(4) Times	(5) Nature of Broadcast
NEW CALEDONIA				
3940	Noumea (FJP).	2197.5 kHz, J3E.	0805, 2005.	Local navigational warnings in French.
		4366 kHz, J3E.	0900, 1230, 1630, 1800.	Local navigational warnings in French.
		6501 kHz, J3E.	1105, 1505.	Local navigational warnings in French.
		4366 kHz, J3E.	0500, 2000.	Weather in French.
		Ch. 23, 24, 25, 26, 28, 82, 83, 87, F3E.	0830, 1130, 1715, 2030.	Local navigational warnings in French.
		Ch. 23, 24, 25, 26, 28, 82, 83, 87, F3E.	0415, 0730, 1930, 2230.	Weather in French.
ILES DE LA SOCIETE				
3943	Mahina (FJA).	2620 kHz, J3E.	0403, 1803, 1833.	Local navigational warnings.
		8803 kHz, J3E.	0030, 0230, 1845, 2100.	Local navigational warnings.
		2620 kHz, J3E, Ch. 26, 27, F3E.	0403, 0700, 1803, 1833, 2200.	Weather in French.
		8803 kHz, J3E.	0030, 0230, 1845.	Weather in French.
		8803 kHz, J3E, Ch. 26, 27, F3E.	0640, 2100.	Weather in French.
FIJI ISLANDS				
3945	Suva (3DP).	4372, 8746 kHz, J3E.	0003, 0403, 0803, 2003.	Local navigational warnings and weather.
		4372, 8746 kHz, J3E.	Every hour +03m.	Weather.
AMERICAN SAMOA				
3948	Pago Pago (KUQ).	8585 kHz, A1A.	0000, 0400, 1600, 2000.	Local navigational warnings (weather at 0400, 2000).
		6361 kHz, A1A.	0800.	Local navigational warnings.

## RADIO NAVIGATIONAL WARNINGS

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