



The Cruising Club of America

FREQUENCIES, NETS, WX SCHEDULES AND TABLES

Formerly Titled

“APPENDIX TO THE OFFSHORE COMMUNICATIONS MEMORANDUM”

Version 6.1

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Disclaimer. This document was compiled from information supplied a member of the Cruising Club of America and from various publications and websites to which the reader is referred for more detailed and current information. While the Club has no reason to believe that any of the information is inaccurate, it has not confirmed the accuracy or completeness of the information and makes no representation with respect thereto. Furthermore, this document does not purport to supply all of the information about offshore communications that someone should have before embarking on an offshore passage.

Note: Any reference to a commercial product or service does not imply any endorsement by the Cruising Club of America as to function or suitability for any purpose or environment.

FOREWORD

The orientation of the original Offshore Communications Memorandum posted to the web in 2002 was outward bound from North America and included a little material about Bermuda and the Caribbean. Recognizing that cruisers can be in almost any part of the world these days, the scope has been expanded to include other cruising areas in various degrees. Particular emphasis on Europe has been included in recognition of pending cruises there. With the expanded coverage and additional material, it has been necessary to divide the original Memorandum into two parts.

The primary paper, the Offshore Communications Memorandum, now deals with safety, weather, communication systems such as Navtex, RTTY, notes on yacht navigation, yacht communications in Europe and so on. The focus is mainly on applications available to the Single Sideband Radio (SSB) omitting theory, installation and the like available elsewhere.

This paper, previously called the "Offshore Communication Memorandum Appendix" contains listings and table data such as authorized SSB frequencies, Nets (both SSB and Ham), weather fax schedules for North America and Europe, the RTTY schedule for Hamburg, Germany, an extended listing of Navtex stations, Airmail Stations, Conversion Tables and so on.

Notes:

1. All frequencies and SSB modes described are kHz and USB unless otherwise noted.
2. Although Ham radios and other equipment operate in single sideband mode, SSB throughout this paper pertains to Marine Single Sideband Radios.
3. Schedules, frequencies, Web sites and the like were current in the spring of 2006. Changes do occur particularly with volunteer nets which should be verified before casting off.
4. Greenwich Mean Time (GMT), Coordinated Universal Time (UTC) and Zulu (Z) are used interchangeably throughout to remain consistent with the various agencies and sources. L (Lima) signifies Local Time.
5. The International Telegraphic Union (ITU) is a UN body located at Geneva, Switzerland that regulates radio usage including frequency and channel allocations. The US along with most maritime countries is party to treaties supporting these regulations. They are promulgated in the US by the Federal Communications Commission (FCC) and administered by various agencies. The US Coast Guard has responsibility for maritime applications.
6. Hyperlinks and charts are presented in color.
7. It has been suggested that an index be added. Actually, a facility in Adobe Acrobat is available for this. Simply click on "Edit" on the Tool Bar, then "Find" and type in the reference word. The program will do the rest.

8. Downloading this paper to a computer running on Windows XP requires Acrobat Reader Version 6.0 or higher. Acrobat Reader Ver. 5.0 was released prior to Windows XP and while the display will appear correct on the computer screen running Windows XP, printing it out will not. Acrobat Reader Version 6.0 or better (available free at this website) will do the job properly.

9. Margins, top and bottom, left and right have been set as follows:

- a. Top and bottom – 0.9”
- b. Left and right – 0.6”
- c. Header and footer – 0.5”

10. Print on a color printer to avoid having the yellow highlighted text from printing black.

Clearly, this material is not all inclusive and is also dated by its nature. Readers who learn of meaningful changes are asked to forward these for use in future updates as has been done in this version. Suggestions on how to improve this paper along with updates, corrections, and comments are most welcomed; please do not hesitate to send an email. By all means, the latest version should always be consulted.

My thanks to those readers with sharp eyes who have taken the time to write about corrections.

Best wishes for fair winds and good sailing.

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SIGNIFICANT CHANGES AND CORRECTIONS

Changes, revisions and corrections in this version other than editorial corrections are highlighted in the Table of Contents and the title in the body of the paper in **YELLOW**.

Note: Printing should be done on a color printer. Otherwise, yellow highlighting will appear black!

Changes and corrections – Ver. 2.03, March 2004:

1. Added Mississippi River Frequencies.
2. Added US sea area charts and Spanish Mediterranean chart.
3. Added some WX Fax Broadcast Schedules
4. Added many Ham and SSB nets

Changes and corrections – Ver. 6.1, May 2006:

1. Added a “Significant Changes and Corrections” page.
2. Corrected RTTY 1.34 kHz Adjusted Frequency.
3. Added RTTY 1.9 kHz Adjusted Frequencies
4. Updated Northwood WX Fax schedule effective 8 June 04
5. Added Hamburg WX Fax Schedule
6. Updated VOA & BBC Schedules (current May 06)
7. Miscellaneous editorial corrections
8. Revised velocity conversion table.
9. Changed Version numbering (year, issue)
10. Moved Sea Area Charts into a separate paper
11. Revised WX Fax Schedules: Boston, New Orleans, Pt. Reyes, Hawaii, Kodiak, Northwood & Hamburg
12. Revised changes to the German Weather Service RTTY locations
13. Added Radio Australia, New Zealand & Canada
14. Expanded Conversion Factors
15. Revised US GMDSS Schedule
16. Added HF Frequencies For Aviation Use

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1 SSB Frequencies Authorized By The FCC

Note: In the listing below, frequencies 4060, 8113 and 8128 kHz have been intentionally omitted. While listed by the ITU, they are not authorized by the FCC and may not be used by foreign vessels in US waters or US vessels anywhere.

ITU	RX Freq	TX Freq	Mode	Comment
212	2065	2065	USB	2 ALPHA - BUSINESS AND OPERATIONAL
213	2079	2079	USB	2 BRAVO - BUSINESS AND OPERATIONAL
218	2096.5	2096.5	USB	2 CHARLIE - BUSINESS AND OPERATIONAL
	2182	2182	USB	DISTRESS, SAFETY, HAILING & USCG WATCHKEEPING
	2003	2003	USB	GREAT LAKES ONLY
	2203	2203	USB	GULF OF MEXICO & INTERSHIP NON-COMMERCIAL FISHING
	2830	2830	USB	GULF OF MEXICO SHIP TO SHIP & SHIP TO AIR
	2086	2086	USB	MISSISSIPPI RIVER ONLY
	2782	2782	USB	MISSISSIPPI RIVER ONLY
	2142	2142	USB	PACIFIC COAST, DAYTIME, SOUTH OF 42 N
	2082.5	2082.5	USB	SHIP TO SHIP - ALL AREAS
	2093	2093	USB	SHIP TO SHIP - ALL AREAS
	2214	2214	USB	SHIP TO SHIP - ALL AREAS
275	2638	2638	USB	SHIP TO SHIP - ALL AREAS
	2670	2670	USB	SHIP TO SHIP & USCG WORKING - SAFETY BROADCASTS
280	2738	2738	USB	SHIP TO AIR & SHIP TO SHIP ALL AREAS EXCEPT GREAT LAKES
	3023	3023	USB	SCENE-OF-ACTION SEARCH & RESCUE AND SHIP TO AIR
	4000	4000	USB	SHIP TO SHIP
	4003	4003	USB	SHIP TO SHIP
	4006	4006	USB	SHIP TO SHIP
	4009	4009	USB	SHIP TO SHIP
	4012	4012	USB	SHIP TO SHIP
	4015	4015	USB	SHIP TO SHIP
	4018	4018	USB	SHIP TO SHIP
	4021	4021	USB	SHIP TO SHIP
	4024	4024	USB	SHIP TO SHIP
	4027	4027	USB	SHIP TO SHIP
	4030	4030	USB	SHIP TO SHIP
	4033	4033	USB	SHIP TO SHIP
	4036	4036	USB	SHIP TO SHIP
	4039	4039	USB	SHIP TO SHIP
	4042	4042	USB	SHIP TO SHIP
	4045	4045	USB	SHIP TO SHIP
	4048	4048	USB	SHIP TO SHIP
	4051	4051	USB	SHIP TO SHIP
	4054	4054	USB	SHIP TO SHIP
	4057	4057	USB	SHIP TO SHIP
450	4125	4125	USB	SAFETY, HAILING, SHIP TO AIR & USCG WATCHKEEPING
451	4146	4146	USB	4 ALPHA - BUSINESS AND OPERATIONAL

452	4149	4149	USB	4 BRAVO - BUSINESS AND OPERATIONAL
453	4417	4417	USB	4 CHARLIE - BUSINESS AND OPERATIONAL
	4065	4065	USB	MISSISSIPPI RIVER ONLY
	4089	4089	USB	MISSISSIPPI RIVER ONLY
	4116	4116	USB	MISSISSIPPI RIVER ONLY
	4405	4405	USB	MISSISSIPPI RIVER ONLY
	5680	5680	USB	SCENE-OF-ACTION SEARCH & RESCUE AND- SHIP TO AIR
650	6215	6215	USB	SAFETY, HAILING & USCG WATCHKEEPING
651	6224	6224	USB	6 ALPHA - BUSINESS AND OPERATIONAL
652	6227	6227	USB	6 BRAVO - BUSINESS AND OPERATIONAL
653	6230	6230	USB	6 CHARLIE - BUSINESS AND OPERATIONAL
654	6516	6516	USB	6 DELTA - BUSINESS AND OPERATIONAL - DAYTIME ONLY
	6209	6209	USB	MISSISSIPPI RIVER ONLY
	6212	6212	USB	MISSISSIPPI RIVER ONLY
	6510	6510	USB	MISSISSIPPI RIVER ONLY
	6513	6513	USB	MISSISSIPPI RIVER ONLY
	8101	8101	USB	SHIP TO SHIP
	8104	8104	USB	SHIP TO SHIP
	8107	8107	USB	SHIP TO SHIP
	8110	8110	USB	SHIP TO SHIP
	8116	8116	USB	SHIP TO SHIP
	8119	8119	USB	SHIP TO SHIP
	8122	8122	USB	SHIP TO SHIP
	8125	8125	USB	SHIP TO SHIP
	8131	8131	USB	SHIP TO SHIP
	8134	8134	USB	SHIP TO SHIP
	8137	8137	USB	SHIP TO SHIP
	8140	8140	USB	SHIP TO SHIP
	8143	8143	USB	SHIP TO SHIP
	8146	8146	USB	SHIP TO SHIP
	8149	8149	USB	SHIP TO SHIP
	8152	8152	USB	SHIP TO SHIP
	8155	8155	USB	SHIP TO SHIP
	8158	8158	USB	SHIP TO SHIP
	8161	8161	USB	SHIP TO SHIP
	8164	8164	USB	SHIP TO SHIP
	8167	8167	USB	SHIP TO SHIP
	8170	8170	USB	SHIP TO SHIP
	8173	8173	USB	SHIP TO SHIP
	8176	8176	USB	SHIP TO SHIP
	8179	8179	USB	SHIP TO SHIP
	8182	8182	USB	SHIP TO SHIP
	8185	8185	USB	SHIP TO SHIP
	8188	8188	USB	SHIP TO SHIP
	8191	8191	USB	SHIP TO SHIP
850	8291	8291	USB	SAFETY, HAILING & USCG WATCHKEEPING

851	8294	8294	USB	8 ALPHA - BUSINESS AND OPERATIONAL
852	8297	8297	USB	8 BRAVO - BUSINESS AND OPERATIONAL
	8201	8201	USB	MISSISSIPPI RIVER ONLY
	8213	8213	USB	MISSISSIPPI RIVER ONLY
	8725	8725	USB	MISSISSIPPI RIVER ONLY
	8737	8737	USB	MISSISSIPPI RIVER ONLY
1250	12290	12290	USB	SAFETY, HAILING & USCG WATCHKEEPING
1251	12353	12353	USB	12 ALPHA - BUSINESS AND OPERATIONAL
1252	12356	12356	USB	12 BRAVO - BUSINESS AND OPERATIONAL
1253	12359	12359	USB	12 CHARLIE - BUSINESS AND OPERATIONAL
1254	12362	12362	USB	MISSISSIPPI RIVER ONLY
1255	12365	12365	USB	MISSISSIPPI RIVER ONLY
1650	16420	16420	USB	SAFETY, HAILING & USCG WATCHKEEPING
1651	16528	16528	USB	16 ALPHA - BUSINESS AND OPERATIONAL
1652	16531	16531	USB	16 BRAVO - BUSINESS AND OPERATIONAL
1653	16534	16534	USB	16 CHARLIE - BUSINESS AND OPERATIONAL
	16537	16537	USB	SHIP TO SHORE
	16540	16540	USB	SHIP TO SHORE
	16543	16543	USB	MISSISSIPPI RIVER ONLY
	16546	16546	USB	MISSISSIPPI RIVER ONLY
	18825	18825	USB	SHIP TO SHORE
	18828	18828	USB	SHIP TO SHORE
	18831	18831	USB	SHIP TO SHORE
	18834	18834	USB	SHIP TO SHORE
	18837	18837	USB	SHIP TO SHORE
	18840	18840	USB	18 ALPHA - BUSINESS AND OPERATIONAL
	18843	18843	USB	18 BRAVO - BUSINESS AND OPERATIONAL
2251	22159	22159	USB	22 ALPHA - BUSINESS AND OPERATIONAL
2252	22162	22162	USB	22 BRAVO - BUSINESS AND OPERATIONAL
2253	22165	22165	USB	22 CHARLIE - BUSINESS AND OPERATIONAL
2254	22168	22168	USB	22 DELTA - BUSINESS AND OPERATIONAL
2255	22171	22171	USB	22 ECHO - BUSINESS AND OPERATIONAL
	22174	22174	USB	SHIP TO SHORE
	22177	22177	USB	SHIP TO SHORE
	25100	25100	USB	SHIP TO SHORE
	25103	25103	USB	SHIP TO SHORE
	25106	25106	USB	SHIP TO SHORE
	25109	25109	USB	SHIP TO SHORE
	25112	25112	USB	SHIP TO SHORE
	25115	25115	USB	25 ALPHA - BUSINESS AND OPERATIONAL
	25118	25118	USB	25 BRAVO - BUSINESS AND OPERATIONAL

2 SSB and Ham Nets

SSB and Ham nets operate around the world and there are numerous for lists of them besides word of mouth. If the name of the net is known, a search engine such as Google might have pertinent information. The SSCA has links to several extensive listings such as Dockside Radio, Maritime Cruising Ham Radio Nets and so on. These lists are extensive and updated frequently.

Nets are usually run by volunteers and subject to change.

Z (Zulu) = GMT = UTC, L (Lima) = Local Time, 24 / 7 = 24 hours, 7 days a week.

2.1 SSB and Ham Nets

Time	Freq.	Mode	Net	SSB/ HAM	Comments
AVIATION					
	5547	USB	Air Emergency	SSB	
	8843	USB	Air Emergency	SSB	
	13270	USB	Air Weather - East	SSB	
	13282	USB	Air Weather - West	SSB	
	13300	USB	Airplane En-Route	SSB	
	8971	USB	USCG Air	SSB	
	8983	USB	USCG Air	SSB	
ATLANTIC					
24 / 7 & 1300-1400 Z	21400	USB	Trans-Atlantic Maritime	HAM	Trudi's Net
0400 Z	14313	USB	Mobile Maritime – Trans-Atlantic	HAM	
0700-1200 LT&1245 Z	14300	USB	Mobile Maritime – Trans-Atlantic - West	HAM	
0800 / 1800 Z	14303	USB	Trans-Atlantic Maritime – UK	HAM	
1100 / 2200-0200 Z	14300/313	USB	Intercontinental Net	HAM	D
1130 / 2330 Z	21325	USB	South Atlantic Roundtable	HAM	
1930 Z	12359	USB	Southbound II Check-In	SSB	D
2000-2300 Z	12359	USB	Southbound II WX	SSB	D
2030 Z	14303	LSB	Swedish Maritime Net	HAM	D
2330 Z	21325	USB	South Atlantic Roundtable	HAM	
BAHAMAS					
0700 L	4003	LSB	BASRA - Bahamas WX Net	SSB	Carolyn Wardle
0720 L	7096/3696	LSB	Bahamas WX Net	HAM	
0845 L	6227	LSB	Diver Dan WX	HAM	
1220 Z	3696	USB	BASRA (Bahamas Air-Sea Rescue Assoc.)	HAM	
CARIBBEAN					
	8297	USB	Antigua - English Harbour Radio	SSB	
	14175	USB	Hurricane Net - Alt 1	HAM	
	14275	USB	Hurricane Net - Alt 2	HAM	
	14324	USB	Hurricane Net – Belize	HAM	

0028 Z	9945	USB	VOA Windward's / Leeward's Forecast	SSB	D
0100 Z		3925			
0200 Z	14334	USB	Brazil - East Coast Net		
0200 Z	4357	USB	East Caribbean WX	SSB	D
0700 L	7230.0-7240.0	LSB	Caribbean Mobile Maritime	HAM	
0715 L	7230.0-7240.0	LSB	Caribbean WX - George	HAM	
0815 L	4003	USB	Caribbean WX	SSB	
0330/0930 Z	4426/6501	USB	NWS Offshore Forecast	SSB	D
0330 Z	8764/4316	USB	NWS Offshore Forecast	SSB	D
0330 Z	8502/12788	USB	NWS Offshore Forecast	SSB	D
0330 Z	4434	USB	NWS Offshore Forecast	SSB	D
0830/0900/0930 L	8104	USB	Caribbean WX Net	SSB	www.caribwx.com
0830/0900/0930 L	12362	USB	Caribbean WX Net	SSB	www.caribwx.com
0830/0900/0930 L	16528	USB	Caribbean WX Net	SSB	www.caribwx.com
0900 L	8188	USB	NW Caribbean Marine SSB Net	SSB	Western Carib To Panama
1000-1200 Z	6215	USB	Eastern Caribbean Net	SSB	D
1030 Z	3855	LSB	Trinidad Emergency Net (Eric)	HAM	Weather
1035 Z	3815 / 7162	LSB	Caribbean Emergency & WX Net	HAM	
1100 Z	7083	LSB	Caribbean Cocktail Net	HAM	
1100-1200 Z	7237 / 7241	LSB	Caribbean Mobile Maritime	HAM	
1100 Z	14283	USB	Caribous Traffic Net	HAM	
1110 Z	3930	LSB	Puerto Rico / Virgin Islands WX	HAM	
1115 Z	7241	LSB	Caribbean Mobile Maritime Net (George)	HAM	Weather
1130 Z	7086	LSB	KP2G Caribbean WX Net (George)	HAM	Weather
1200 Z	4357	USB	East Caribbean WX	HAM	Weather
1200 Z	4369/8788	USB	NWS Via WLO	SSB	D
1200 Z	13110/17362	USB	NWS Via WLO	SSB	D
1200 Z	22804	USB	NWS Via WLO	SSB	D
1200 Z	4426/6501	USB	NWS Offshore Forecast	SSB	D
1200 Z	8764/4316	USB	NWS Offshore Forecast	SSB	D
1200 Z	8502/12788	USB	NWS Offshore Forecast	SSB	D
1200 Z	4434	USB	NWS Offshore Forecast	SSB	D
1215 Z	8104	USB	Carib WX and Safety Net (Chris)	SSB	D
1230 Z	7185	LSB	Barbados Info Net	HAM	
1300 Z	12359	USB	Caribbean WX (Chris)	SSB	D
1330 Z	8107	USB	Panama Canal Connection Net	SSB	Pacific to SW Caribbean
1330 Z	8152	USB	Cruisehimers Net	SSB	D
1400 Z	8188	USB	Northwest Caribbean Net	SSB	D
1600	6501/8754	USB	NWS Offshore Forecast	SSB	D
1600	13089/4316	USB	NWS Offshore Forecast	SSB	D
1600	8502/12788	USB	NWS Offshore Forecast	SSB	D
1600-0200 Z	14300	USB	Caribbean Mobile Maritime	HAM	
1800 Z	4357	USB	East Caribbean WX	SSB	D – Weather
1800 Z	4369/8788	USB	NWS Via WLO	SSB	D
1800 Z	13110/17362	USB	NWS Via WLO	SSB	D
1800 Z	22804	USB	NWS Via WLO	SSB	D
1800 Z	4357	USB	East Carib Forecast Via WAH	HAM	
1900-2000 Z	21390	USB	Halo Net	HAM	D
2000 Z	12359	USB	Southbound II (Herb)	SSB	D

2000 Z	14260	USB	Party line Net	HAM	D
2000-2200 Z	21390	USB	Inter American Traffic Net	HAM	D
2030 Z	7086	LSB	Caribbean Cocktail & WX (George)	HAM	D
2100 Z	14261	USB	Ben's Friends	HAM	
2200 Z	6501/8764	USB	NWS Offshore Forecast	SSB	D
2200 Z	13089/4316	USB	NWS Offshore Forecast	SSB	D
2200 Z	8502/12788	USB	NWS Offshore Forecast	SSB	D
2215 Z	8107	USB	Caribbean WX Net - Hurricane	SSB	In Season
2230 Z	3855	LSB	Trinidad Emergency Net (Eric)	HAM	D
2235 Z	7162	LSB	Caribbean Emergency & WX Net	HAM	D
2310 Z	3930	LSB	Puerto Rico / Virgin Islands WX	HAM	D
2400 Z	4369/8788	USB	NWS Via WLO	SSB	D
2400 Z	13110/17362	USB	NWS Via WLO	SSB	D
2400 Z	22804	USB	NWS Via WLO	SSB	D
EUROPE					
0535/1201/1754 L	198	USB	BBC Radio 4 Shipping Forecasts	SSB	D
0601/1248/1902/2355 L	567	USB	Radio Erin	SSB	D
0610/0930/1030/1230 Z	1457	USB	Gibraltar	SSB	M-F, Reduced Sched Sa & Su
0800 & 1800 Z	14303	USB	Mobile Maritime UK	HAM	
0820 & 1720 L	2761	USB	Belgium	SSB	English Channel
0940 & 2140 L	2673	USB	Netherlands	SSB	Short Distances
1300/1530/1715 Z	1458	USB	Gibraltar	SSB	M-F, Reduced Sched Sa & Su
MEDITERRANEAN					
24/7	8173	USB	Red Sea Net	SSB	
0530 Z	8122	USB	Mediterranean Cruisers Net	SSB	April 1 – Oct 31
0600 Z	8188	USB	Kemer Net	SSB	
0700-0000 Z	7085	LSB	Mediterranean Mobile Maritime	HAM	
0900 Z	14313	USB	Mediterranean Mobile Maritime	HAM	
1800 Z	14303	USB	Mediterranean Mobile Maritime	HAM	
1900 Z	14297	USB	Italian Mobile Maritime	HAM	
NORTH AMERICA - CANADA					
1100 Z	3770	LSB	Maritime Provinces WX Net	HAM	M- Sa
0400 / 1730 Z	14115	USB	DDD Net	HAM	
1245 & 1800 Z	14121	USB	Mississauga Net Canadian	HAM	
NORTH AMERICA - US EAST & SOUTHERN COASTS					
24/7	6459	USB	AFRS Roosevelt Roads, Puerto Rico	USB	
24/7	12690	USB	AFRS Key West, FL	USB	
	3940/7247	LSB	Florida Hurricane Emergency Net		
	7233	LSB	East US Net	HAM	
	7240	LSB	Texas Hurricane Net	HAM	
	14265	USB	Salvation Army Emergency Relief Net	HAM	SATERN - 14625 (?)
	14325	USB	Hurricane Watch	HAM	www.hwn.org
0730 L	4045	USB	OCC Summertime Net	USB	D
0745 L	7268	LSB	Waterway Radio and Cruising Club	HAM	D
0830 L	8152/8148	USB	Cruiseheimer's Net	SSB	

1200 Z	3897	LSB	CCA Net	HAM	MWF
1215 Z	14323	USB	CCA Net	HAM	MWF
1700 Z	14287	USB	US Power Squadron	HAM	Saturdays
1800 Z	28357	USB	US Power Squadron	HAM	Saturdays
1930 & 2000 Z	12359	USB	Southbound II (Herb Hilgenberg)	SSB	D - Atlantic & Caribbean WX
2130 Z	14290	USB	EC Waterway Net	HAM	D
NORTH AMERICA - US WEST COAST					
	3935	LSB	Gulf Coast Hurricane	HAM	
	7096	LSB	BaHa WX Net	HAM	
	14125/225/325	USB	Hurricane Net	HAM	
0000 Z	3969	LSB	Happy Hour Net	HAM	D
0130-0300 Z	28313	USB	10 Meter Mobile Maritime Net	HAM	E. Pacific & Hawaii
0200 Z	21402	USB	Gerry's Happy Hour	HAM	
0200-0400 Z	14313/300	USB	Pacific Seafarers Net	HAM	
0330 Z	7294	LSB	Sandia Net	HAM	
0400-1800 Z	14310	USB	Maritime Emergency Net	HAM	
0730 L	14340	USB	Glenn's Friends Net - E. Pacific Coast	HAM	
0750 L	7278	LSB	Great Northern Boater's Net	HAM	
0800 L	7238	LSB	Baja California Maritime Net	HAM	Coastal Baja – California
1415 Z	3968	LSB	Sonrisa Net - E. Pacific & Mexico	HAM	
1430-1530 L	7214	LSB	Chubasco Net - E. Pacific & Mexico	HAM	
1530 Z	7294	LSB	Chubasco Net - E. Pacific & Mexico	HAM	
1630 Z	3865	LSB	Northwest Boater's Net	HAM	
1800 L	3855	LSB	British Columbia Net	HAM	
1830 Z	14340	USB	Manana Net Warm Up	HAM	M – Sa
1900 Z	14340	USB	Manana - E. Pacific and Mexico	HAM	
PACIFIC					
Night Time	5765	USB	AFRS Guam	SSB	Armed Forces Radio Service
Night Time	6350	USB	AFRS Pearl Harbor	SSB	
Day Time	10320	USB	AFRS Pearl Harbor	SSB	
Daytime	13362	USB	AFRS Guam	SSB	
0000 - 2400 Z	14300	USB	Mobile Maritime Net	HAM	Different Languages
0000 Z	14320	USB	Southeast Asia MM Net	HAM	D
0300 Z	13940	USB	French Net	HAM	French
0230 - 0350 Z	14300	USB	Pacific Seafarers Net	HAM	www.bitwrangler.com/yotreps
0400-1800 Z	14310	USB	Maritime Emergency Net	HAM	
0400 Z	14318	USB	Arnold's Net	HAM	
0715 Z	3820	LSB	Bay Of Islands Net	HAM	New Zealand
0730 L	4445	USB	Russell Radio - New Zealand	HAM	
0800 L	13137	USB	Russell Radio - New Zealand	HAM	
0800 Z	14315	USB	Pacific Inter Island Net	HAM	
0800 Z	21412	USB	Pacific M/M Service Net	HAM	
0800 L	8161	USB	Namba Net - New Caledonia to Solomon's	SSB	May To October
0830 & 1630 L	12353	USB	Russell Radio - New Zealand	SSB	Bora Bora to Australia
0900 L	8143	USB	Panama Pacific Net	SSB	
0900 L	8164	USB	Patagonia Cruiser's Net (Chile)	SSB	
0915 & 1600 L	12359	USB	Russell Radio - New Zealand	SSB	Bora Bora to Australia

0930 & 2103 Z	12356	USB	Fiji WX and Navigation Warnings	SSB	
0933 & 2133 Z	16531	USB	Fiji WX and Navigation Warnings	SSB	
1000 & 2300 Z	14315	USB	Robby's Net (Australia)	HAM	South Pacific
1000 Z	14320	USB	South China Sea Net	HAM	
1200 Z	14320	USB	South East Asia Net	HAM	
1330 Z	8107	USB	Panama Canal Connection Net	SSB	Pacific & SW Caribbean
1600 L	13137	USB	Russell Radio - New Zealand	HAM	
1730 Z	8188	USB	Coconut Breakfast - French Polynesia	SSB	English
1800 Z	7076	LSB	South Pacific Cruising Net	HAM	
1830 Z	12353	USB	Coconut Bkfst - West Of Fr. Polynesia	SSB	
1900 L	4445	USB	Russell Radio - New Zealand	HAM	
1900 Z	6203	USB	Fiji Weather	SSB	May be 6230 kHz
1900 Z	7285	LSB	Hawaii AM Net	HAM	D
1900 Z	8173	USB	Rag Of The Air Net	SSB	
1900 Z	14285	USB	Kaffee Klatch Un-Net	HAM	M, W, Sa
1900 Z	14305	USB	Confusion Net	HAM	M-F
1900 Z	14329	USB	Bay Of Islands Net	HAM	D
2000 Z	7080	LSB	New Zealand WX Net	HAM	D
2000 Z	7095	LSB	Harry's Net	HAM	D
2000 Z	8104	USB	Fiji Weather	SSB	
2040 Z	7087	LSB	Comedy Net	Ham	D
2030 Z	14315	USB	Tony's Net Warm Up	HAM	D
2100 Z	14315	USB	Tony's Net	HAM	D
2100 Z	14113	USB	Mickey Mouse Connection	HAM	D
2200 Z	8161	USB	Sheila Net - NE Australia & New Guinea	SSB	D
2200 Z	21412	USB	Pacific Maritime Net	HAM	M-F
2200 Z	21412	USB	Maritime Mobile Service Net	HAM	M-F
2300 Z	12165	USB	Voice Guam	SSB	Storm & Seas - 2130 & 0330 Z
INDIAN OCEAN					
Night Time	4319	USB	AFRS - Diego Garcia	SSB	
Day Time	12579	USB	AFRS - Diego Garcia	SSB	
0025 Z	4323 ***	?	Richard Z21RH	?	Weather
0500 Z	8101	USB	Fred PeriPeri	SSB	Weather
0525 Z	2353 ***	?	Fred PeriPeri	?	Weather
0540 Z	4316 ***	?	Fred PeriPeri	?	Weather
1130 Z	4316 ***	?	Alistair ZS5MU and Graham ZS2ABK	?	Weather
1500 Z	8101	USB	Fred PeriPeri	SSB	Weather
1525 Z	2353 ***	?	Fred PeriPeri	?	Weather
1540 Z	4316 ***	?	Fred PeriPeri	?	Weather
0500 Z	14316	USB	Tony's Net (Kenya)	HAM	Indian Ocean / Red Sea
0630 / 1130 Z	14320	USB	SE Asia M/M Net	HAM	Indian Ocean / S Atlantic
0630 / 1130 Z	14318 / 105	USB	S. African Maritime Net	HAM	Indian Ocean / S Atlantic
1115 Z	14316	USB	Indian Ocean Mobile Maritime Net	HAM	Indian Ocean / W. Pacific
1115 Z	14320	USB	Roy's Net (Perth, Australia)	HAM	N & W Indian Ocean
2100 Z	14315	USB	Tony's Net (New Zealand)	HAM	Indian Ocean / Red Sea

*** Unauthorized frequencies in SSB bandwidths.

2.2 Transoceanic HF Frequencies Used By Airplanes*

In the even of an emergency at sea and there is time to seek help, airplanes flying over can provide an initial emergency communications link. SSB and Ham operations are not authorized to use the following frequencies, but anything goes in an all out emergency; the next time a cruising yacht is rescued at sea by a passing airplane will not be the first.

The following are the frequency bands authorized for aviation use. The frequency channels used by region are on the following page.

These frequency bands are in kHz and USB:

2850 - 3155
3400 - 3500
4650 - 4750
5480 - 5730
6525 - 6765
8815 - 9040
10005 - 10100
11175 - 11400
13200 - 13360
15010 - 15100
17900 - 18030
21870 - 22000
23200 - 23350

* This information was provided courtesy of the Bob Ellis website.

2.3 Channels Authorized For Aviation Use

Shannon - WX	5505										
Shannon - ATC	5598	5616	5649	5658	5680						
Shannon - ATC Alt	8906	8864	8879								
Kinloss Rescue	5680										
N Atlantic - A	3016	5598	8906	13306	17946						
N Atlantic - B	2899	5616	8864	13291	17946						
N Atlantic - C	2872	4675	8879	13306	17946						
N Atlantic - D	2971	4675	8891	11279	13291	17946					
N Atlantic - E	2962	6628	8825	11309	13354						
N Atlantic - F	3476	6622	8831	11336	13291						
Caribbean - A	2887	5550	6577	6649	8918	11396	13297	17907			
Caribbean - B	3455	5520	6586	8846	11330	17907					
Caribbean - C	3479	5526	8855	10096	13297	17907					
S America - NE	3479	5526	8855	10096	13297	17907					
S America - NW	3479	5526	8855	10096	13297	17907					
S America - SE	3479	5526	8855	10096	13297	17907					
S America - SW	2944	4669	6649	10024	11360	17907					
S Atlantic - 1	3452	6535	8861	13357	17955						
S Atlantic - 2	2854	5565	11291	13315	17955						
Africa / Atlantic	3452	6535	8861	13357	17955						
Africa / Med	3419	5652	8894	13273	17961						
Africa East	3467	5517	10018	11300	13288	17961					
Africa	2878	5493	8903	13294	17961						
Indonesia	3476	5634	8879	13306	17961						
Middle East - 1	2992	4669	5667	6331	8951	11375	17961				
Middle East - 2	3467	5658	10018	11300	13288	17961					
Middle East - 3	2944	4669	6631	8951	11375	17961					
Europe / Asia	3479	5661	6598	10084	13288	17961					
East Asia - 1	3016	6571	8897	10042	17958						
East Asia - 2	3485	5649	5655	8942	11396	13309	17907				
SE Asia - 1	3470	5670	6556	10066	13318	17907					
SE Asia - 2	3485	5649	5655	8942	11396	13309	17907				
SE Asia - 3	3470	5733	6556	10066	11396	13318	17907				
Cent. E Pacific	2869	3413	5547	6673	8843	10057	11282	13261	13288	17904	
Cent. W Pacific	2998	4666	6532	6562	8903	11384	13300	17904			
N Pacific	2932	5628	5667	6655	8951	10048	13294	13339	17904	17946	21925
S Pacific	3467	5643	8867	13261	17904						

3 WX Fax & RTTY Broadcast Schedules

The following unless otherwise noted was taken from Tim Rulon's comprehensive work at www.nws.noaa.gov/om/marine/rfax.pdf.

Note 1: With SSB use in conjunction with computer programs, the WX Fax frequencies for all stations that follow must be adjusted down 1.9 kHz for proper reception. These adjusted frequencies are highlighted in red.

Note 2: While various emissions are indicated, USB (H3E) works fine.

Note 3: All schedule times are UTC. Schedules and content change occasionally. While we have attempted to provide the latest version, it should be confirmed before casting off.

Note 4: Some computer programs can be adjusted to automatically start at specific times to catch the WX Fax broadcast. This is a clever idea and works well when the broadcast starts on schedule. Unfortunately, these broadcasts seldom start precisely on time (synchronized with GPS) and the program start time should be advanced to capture starting signals.

The initial fax signals tell the program to begin. If these starting signals are not received, the computer program will not activate to receive the fax.

3.01 HALIFAX, NOVA SCOTIA, CANADA CALL SIGN: CFH DOWNLOADED FROM CCG 24 MAR 06

← FREQUENCIES →

ASSIGNED kHz	ADJUSTED FOR SSB - kHz	TIMES	RPM/IOC	EMISSION	POWER
122.5 kHz	120.6 kHz	Continuous	120 / 576	F3C	10 kW
4271.0 kHz	4269.1 kHz	Continuous	120 / 576	F3C	6 kW
6496.4 kHz	6494.5 kHz	Continuous	120 / 576	F3C	6 kW
10536.0 kHz	10534.1 kHz	Continuous	120 / 576	F3C	6 kW
13510.0 kHz	13508.1 kHz	Continuous	120 / 576	F3C	6 kW

TIME	CONTENTS OF TRANSMISSION	VALID	MAP AREA
0001/-----	LABRADOR COAST ICE CHART (SEASONAL)	LATEST	
-----/1201	3-DAY PROGNOSIS (?)	1200	G
0101/-----	SATELLITE PICTURE INFRARED	00/12	
-----/1222	4-DAY PROGNOSIS	1200	G
-----/1301	5-DAY PROGNOSIS	1200	G
0201/1401	12/00Z SIGNIFICANT WEATHER DEPICTION	Dec-00	A
0301/1501	500MB ANALYSIS	00/12	B
0322/1522	SURFACE ANALYSIS	00/12	F
0401/-----	500MB 36HR PROGNOSIS	1200	B
-----/1601	850MB ANALYSIS	1200	

0422/-----	24HR ISOBARIC PROGNOSIS	0000	H
-----/1622	500MB 36HR PROGNOSIS	0000	
0501/-----	850MB FORECAST - WIND/TEMP/HEIGHT	18/00	A
-----/1701	24HR ISOBARIC PROGNOSIS	1200	
0601/1801	36HR ISOBARIC PROG	12/00	A
-----/1822	850MB FORECAST WIND/TEMP/HEIGHT	06/12	C
0701/1901	18/06Z SIGNIFICANT WEATHER DEPICTION	18/06	A
0801/2001	24/36 HR SIGNIFICANT WAVE PROGNOSIS	00&12/00&12	A
0901/2101	SURFACE ANALYSIS	06/18	F
1001/-----	SST: NOVA SCOTIA - MON, NEWFOUNDLAND - TUE/FRI,	LATEST	E/D
1001/-----	NOVA SCOTIA - WED/SAT, NEWFOUNDLAND - SUN/THU	LATEST	E/D
2201	SST: NOVA SCOTIA - TUE/THU/FRI NEWFOUNDLAND - WED/SAT	LATEST	E/D
2201	OFA: NOVA SCOTIA - SUN NEWFOUNDLAND - MON	LATEST	E/D
1022/-----	SATELLITE PHOTO INFRARED	LATEST	
-----/2222	NEWFOUNDLAND ICE CHART	LATEST	
1101/-----	CFH BROADCAST SCHEDULE/TEST CHART	LATEST	
-----/2301	GULF OF ST LAWRENCE ICE CHART (SEASONAL)	LATEST	

NOTES:

1. ICE CHARTS FOR THE GULF OF ST. LAWRENCE, LABRADOR, HUDSON STRAIT AND EASTERN ARCTIC ARE PREPARED BY THE CANADIAN ICE SERVICE (OTTAWA) AND ARE BROADCAST ACCORDING TO SEASON. ONE ICE CHART IS BROADCAST WITHIN THE ALLOTTED TIME FROM HALIFAX (CFH), HOWEVER, ONE ICE CHART MAY BE BROADCAST WITHIN THE ALLOTTED TIME FROM IQALUIT, FROBISHER BAY (VFF) AND RESOLUTE (VFR).

2. BROADCAST TIME MAY ALSO BE USED TO REPEAT OTHER CHARTS OR SPECIAL CHARTS AS REQUIRED.

3. THE CANADIAN FORCES FLEET METEOROLOGICAL AND OCEANOGRAPHIC CENTRE (METOC) BROADCAST ATLANTIC BROADCASTS TEXT AND CHART INFORMATION. THE BROADCAST IS MAINTAINED TO SERVE AND FULFIL THE REQUIREMENTS OF THE CANADIAN NAVY. CONSEQUENTLY THE BROADCAST IS SUBJECT TO SHORT NOTICE CHANGE WITHOUT NOTIFICATION. THE AREA IN WHICH THE BROADCAST IS INTENDED TO BE RECEIVED IS NORTH ATLANTIC WATERS NORTH OF 350N AND WEST OF 350W. THE BROADCAST SHARES IT TIME BETWEEN RADIO-FACSIMILE AND RADIOTELETYPE. THE FACSIMILE PORTION CONSISTS OF EITHER ONE OR TWO CHARTS BEING BROADCAST AT THE BEGINNING OF EACH HOUR. THE REMAINING TIME IS DEDICATED TO RADIOTELETYPE.

MAP AREAS:

A	49N - 90W	64N - 16W	28N - 67W	05N - 27W
B	76N - 16W	30N - 20W	23N - 110W	08N - 69W
C	48N - 85W	65N - 15W	28N - 62W	34N - 23W
D	60N - 68W	53N - 30W	42N - 66W	38N - 40W
E	46N - 77W	48N - 46W	32N - 74W	32N - 51W
F	59N - 110W	59N - 10W	25N - 82W	25N - 40W
G	49N - 21W	27N - 40W	27N - 80W	49N - 94W
H	30N - 107W	15N - 67W	34N - 24W	79N - 60W

http://www.ccg-gcc.gc.ca/main_e.htm http://www.ccg-gcc.gc.ca/mcts-sctm/ramnatl_e.htm

← FREQUENCIES →

ASSIGNED kHz	ADJUSTED FOR SSB - kHz	TIMES	RPM/IOC	EMISSION	POWER
3251.1	3249.2		120 / 576	J3C	5 kW
7708.1	7706.2		120 / 576	J3C	5 kW

TIME	CONTENTS OF TRANSMISSION	RPM/IOC	VALID TIME	MAP AREA
0500	ICE ANALYSIS (AREAS)	120/576		1,2,3,4,5,6,7
1000	SURFACE ANALYSIS & 18HR PROG & 48HR PROG	120/576	06/06/00	
2100	SURFACE ANALYSIS & 18HR PROG	120/576		
2135	ICE ANALYSIS (AREAS 1,2,3,4,5,6,7)	120/576		

MAP AREA:

1	HUDSON BAY (SOUTH)
2	HUDSON BAY (NORTH)
3	HUDSON STRAIT
4	FOX E BASIN
5	LABRADOR COAST
6	DAVIS STRAIT
7	BAFFIN BAY

NOTE: THE AREAS INCLUDED IN THE BROADCASTS VARY WITH ICE CONDITIONS AND MARINE ACTIVITY. ALL CHARTS AVAILABLE CAN BE TRANSMITTED ON REQUEST. (INFORMATION UPDATED 03/2002)

http://www.ccg-gcc.gc.ca/cen-arc/mcts-sctm/broadcast/iqaluit_e.htm

3.03 RESOLUTE, N.W.T., CANADA

CALL SIGN: VFR

← FREQUENCIES →

ASSIGNED kHz	ADJUSTED FOR SSB - kHz	TIMES	EMISSION	RPM/IOC	POWER
3251.1	3249.2	1 JUL-15 OCT	J3C	120/576	5 kW
7708.1	7706.2	1 JUL-15 OCT	J3C	120/576	5 kW

TIME	CONTENTS OF TRANSMISSION	VALID TIME	MAP AREA
10	ICE ANALYSIS		7, 8, 9, 10, 11
700	ICE ANALYSIS		7, 8, 9, 10, 11
1100	SURFACE ANALYSIS & 18HR PROG & 48HR PROG	6/6/2000	
2330	SURFACE ANALYSIS & 18HR PROG	18/12	

MAP AREAS:

7	BAFFIN BAY
8	APPROACHES TO RESOLUTE
9	EUREKA SOUND
10	PARRY CHANNEL
11	QYENN MAUDE/PRINCE REGENT

(INFORMATION DATED 01/2001) http://www.ccg-gcc.gc.ca/cen-arc/mcts-sctm/broadcast/iqaluit_e.htm
(Update Mar 2002)

3.04 SYDNEY - NOVA SCOTIA, CANADA

CALL SIGN: VCO

← FREQUENCIES →

ASSIGNED kHz	ADJUSTED FOR SSB - kHz	RPM/IOC	TIMES	EMISSION	POWER
4416	4414.1	120 / 576	1121-1741	J3C	
6915	6913.1	120 / 576	2200-2331	J3C	

TIME CONTENTS OF TRANSMISSION

1121	ICE ANALYSIS GULF OF ST. LAWRENCE
1142	ICE ANALYSIS EAST OR SOUTHEAST NEWFOUNDLAND WATERS
1741	ICE ANALYSIS ICEBERG LIMIT
2200	ICE ANALYSIS GULF OF ST. LAWRENCE
2331	ICE ANALYSIS EAST OR SOUTHEAST NEWFOUNDLAND WATERS

(INFORMATION DATED 2001)

http://www.ccg-gcc.gc.ca/mcts-sctm/ramnatl_e.htm

← FREQUENCIES →

ASSIGNED kHz	ADJUSTED FOR SSB - kHz	TIMES	RPM / IOC	EMISSION	POWER
4235.0 kHz	4233.1 kHz	0230 - 1028 Z	120 / 576	F3C	5 kW
6340.5 kHz	6338.6 kHz	Continuous	120 / 576	F3C	5 kW
9110.0 kHz	9108.1 kHz	Continuous	120 / 576	F3C	5 kW
12750.0 kHz	12748.1 kHz	1400 - 2228 Z	120 / 576	F3C	5 kW

TIME UTC	CONTENTS OF TRANSMISSION	VALID TIME	MAP AREA
0230/1400	TEST PATTERN		
-----/1405	BROADCAST SCHEDULE (PART 1)		
-----/1420	BROADCAST SCHEDULE (PART 2)		
-----/1433	REQUEST FOR COMMENTS		
-----/1443	PRODUCT NOTICE BULLETIN		
0233/1453	PRELIMINARY SURFACE ANALYSIS	00/12	1
0243/-----	BROADCAST SCHEDULE (PART 1)		
0254/-----	BROADCAST SCHEDULE (PART 2)		
0305/-----	REQUEST FOR COMMENTS		
-----/1503	SATELLITE IMAGE	1200	5
0315/1515	WIND/WAVE ANALYSIS	00/12	1#
0325/1525	SURFACE ANALYSIS (PART 1 NE ATLANTIC)	00/12	2
0338/1538	SURFACE ANALYSIS (PART 2 NW ATLANTIC)	00/12	3
0351/-----	SATELLITE IMAGE	0	5
-----/1600	ICE CHARTS	LATEST	
-----/1720	TEST PATTERN		
0402/1723	SURFACE ANALYSIS (PART 1) (REBROADCAST OF 0325/1525)	00/12	2
0415/1736	SURFACE ANALYSIS (PART 2) (REBROADCAST OF 0338/1538)	00/12	3
0428/1749	500MB ANALYSIS	00/12	4
-----/1759	SEA STATE ANALYSIS	1200	4
0438/1810	ICE CHARTS	LATEST	
0452/1824	CYCLONE DANGER AREA* or HIGH WIND/WAVES	03/15	7
0745/1900	TEST PATTERN		
0755/-----	PRELIMINARY SURFACE ANALYSIS	0600	1
0805/1905	24HR SURFACE FORECAST	00/12	8
0815/1915	24HR WIND/WAVE FORECAST	00/12	8
0825/1925	24HR 500MB FORECAST	00/12	4
0835/1935	36HR 500MB FORECAST	12/00	4
0845/1945	48HR 500MB FORECAST	00/12	4
0855/1955	48HR SURFACE FORECAST	00/12	4
0905/2005	48HR WIND/WAVE FORECAST	00/12	4
0915/2015	48HR WAVE PERIOD FORECAST	00/12	4
-----/2025	PRELIMINARY SURFACE ANALYSIS	1800	1

-----/2035	96 HR 500MB FORECAST	1200	4
-----/2045	96 HR SURFACE FORECAST	1200	4
-----/2055	96 HR WIND/WAVE FORECAST	1200	4
-----/2105	96 HR WAVE PERIOD FORECAST	1200	4
-----/2115	(REBROADCAST OF 2045)	1200	4
0925/2125	SURFACE ANALYSIS (PART 1 NE ATLANTIC)	06/18	2
0938/2138	SURFACE ANALYSIS (PART 2 NW ATLANTIC)	06/18	3
0951/2151	SATELLITE IMAGE	06/18	6
1002/2202	(REBROADCAST OF 0925/2125)	06/18	2
1015/2215	(REBROADCAST OF 0938/2138)	06/18	3
1028/2228	CYCLONE DANGER AREA* OR HIGH WIND/WAVES	09/21	7

MAP AREAS	NORTH - SOUTH	EAST - WEST
1	28N - 52N	45W - 85W
2	18N - 65N	10E - 45W
3	18N - 65N	40W - 95W
4	18N - 65N	10E - 95W
5	20N - 55N	55W - 95W
6	EQ - 60N	40W - 130W
7	05N - 60N	0W - 100W
8	22N - 51N	40W - 98W

Notes:

1. * Tropical Cyclone Danger Area Chart replaced by High Wind/Wave Warning chart, Dec 01 – May 15. Valid times 00Z, 06Z, 12Z and 18Z. Map areas 05N – 40N, 35W – 100W.

2. Effective 16 May 2006, the map area for several wind/wave, surface and 24 Hr 500 mb changed from a polar stereographic to a Mercator projection and the area coverage of the 24 Hr 500 mb charts will be expanded to the same basin-wide projection as the current 36, 48 and 96 hour charts.

3. Transmit power has been reduced from 10 kW to 5 kW.

4. Latest Schedule: <http://weather.noaa.gov/fax/marsh.txt>

← FREQUENCIES →

ASSIGNED	ADJUSTED	TIMES	RPM / IOC	EMISSION	POWER
kHz	FOR SSB - kHz				
4317.9	4316.0	Continuous	120 / 576	F3C	5 kW
8503.9	8502.0	Continuous	120 / 576	F3C	5 kW
12789.9	12788.0	Continuous	120 / 576	F3C	5 kW
17146.4	17144.5	1200Z - 2045Z	120 / 576	F3C	5 kW

TIME	CONTENTS OF TRANSMISSION	VALID	MAP
UTC		TIME	AREA
0000/1200	TEST PATTERN		
0005/1205	U.S. / TROPICAL SURFACE ANALYSIS (W HALF)	18/06	1
0020/1220	TROPICAL SURFACE ANALYSIS (E HALF)	18/06	2
0035/1235	24 HR WIND/WAVE FORECAST	00/12	3
0045/1245	48 HR WIND/WAVE FORECAST	00/12	3
0055/1255	72 HR WIND/WAVE FORECAST	00/12	3
0105/1305	24 HR SURFACE FORECAST	00/12	3
0115/1315	48 HR SURFACE FORECAST	00/12	3
0125/1325	72 HR SURFACE FORECAST	00/12	3
0135/1335	CYCLONE DANGER AREA* or HIGH WIND/WAVES	21/09	6
0150/-----	72 HR WAVE PERIOD/SWELL DIRECTION	0000	3
-----/1350	(REBROADCAST OF 0150)	0000	3
0200/1400	GOES IR TROPICAL SATELLITE IMAGE	00/12	4
0215/1415	00 HR SEA STATE ANALYSIS	00/12	3
-----/1425	PRODUCT NOTICE BULLETIN		
0225/1445	HIGH SEAS FORECAST	22/10	5
0600/1800	TEST PATTERN		
0605/1805	U.S. / TROPICAL SURFACE ANALYSIS (W HALF)	00/12	1
0620/1820	TROPICAL SURFACE ANALYSIS (E HALF)	00/12	2
0635/1835	24 HR WIND/WAVE FORECAST	06/18	3
0645/1845	REBROADCAST OF 0045/1245	00/12	3
0655/1855	REBROADCAST OF 0055/1255	00/12	3
0705/1905	REBROADCAST OF 0105/1305	00/12	3
0715/1915	REBROADCAST OF 0115/1315	00/12	3
0725/1925	REBROADCAST OF 0125/1325	00/12	3
0735/1935	CYCLONE DANGER AREA* or HIGH WIND/WAVES	03/15	6
0750/1950	48 HR WAVE PERIOD/SWELL DIRECTION	00/12	3
0800/2000	GOES IR TROPICAL SATELLITE IMAGE	07/18	4
0815/2015	REBROADCAST OF 0215/1415	00/12	3
0825/2025	REQUEST FOR COMMENTS / BROADCAST SCHEDULE		
0845/2045	HIGH SEAS FORECAST	38823	5

NOTES:

1. Tropical cyclone danger area chart is replaced by HIGH WIND/WAVE WARNING Chart DEC 01 – MAY 15. Valid times 00Z, 06Z, 12Z and 18Z. MAP AREA 05 N – 40 N, 35W - 100W.

2. Transmit power has been reduced from 10 kW to 5 kW.

MAP AREA	NORTH - SOUTH	EAST - WEST
1	05S - 50N	55W - 125W
2	05S - 50N	00W - 070W
3	00N - 31N	35W - 100W
4	12S - 44N	28W - 112W
5 *	07N - 31N	35W - 098W
6	05N - 60N	00W - 100W

* AREA COVERED BY TEXT FORECAST

For additional information about broadcasts of Marine Radio Fax charts from Station NMG, New Orleans (Belle Chase), go to: <http://weather.noaa.gov/fax/gulf.shtml>

← FREQUENCIES →

ASSIGNED	ADJUSTED	TIMES	RPM / IOC	EMISSION	POWER
kHz	FOR SSB - kHz				
4346	4344.1	Night	120 / 576	F3C	4 kW
8682	8680.1	Continuous	120 / 576	F3C	4 kW
12786	12784.1	Continuous	120 / 576	F3C	4 kW
17151.2	17149.3	Continuous	120 / 576	F3C	4 kW
22527	22525.1	Day	120 / 576	F3C	4 kW

TIME	CONTENTS OF TRANSMISSION	VALID	MAP
UTC		TIME	AREA
0140/1400	TEST PATTERN		
0143/1403	NE PACIFIC GOES IR SATELLITE IMAGE	21/12	6
0154/1414	PACIFIC GOES IR SATELLITE IMAGE	00/12	5
0205/1425	TROPICAL SEA STATE ANALYSIS	00/12	4
0215/1435	TROPICAL 24HR WIND/WAVE FORECAST	00/12	4
0225/-----	TROPICAL 48HR WIND/WAVE FORECAST	0	4
0235/-----	TROPICAL 72HR WIND/WAVE FORECAST	0	4
0245/1445	500MB ANALYSIS	00/12	1
0255/1455	SEA STATE ANALYSIS	00/12	1 / 8
0305/1505	PRELIMINARY SURFCE ANALYSIS (PART 1 - NE PACIFIC)	00/12	2
0318/1518	PRELIMINARY SURFCE ANALYSIS (PART 2 - NW PACIFIC)	00/12	3
0331/1531	FINAL SURFACE ANALYSIS (PART 1 - NE PACIFIC)	00/12	2
0344/1544	FINAL SURFACE ANALYSIS (PART 2 - NW PACIFIC)	00/12	3
0357/1557	TROPICAL CYCLONE DANGER AREA* or HIGH WIND/WAVES	03/15	10
0408/1608	TROPICAL SURFACE ANALYSIS	00/12	4
0655/1840	TEST PATTERN		
0657/-----	2033Z REBROADCAST (96HR 500MB)	1200	1
0707/-----	2043Z REBROADCAST (96HR SURFACE)	1200	1
0717/-----	2053Z REBROADCAST (96HR WIND/WAVE)	1200	1
0727/-----	2103Z REBROADCAST (96HR WAVE PERIOD)	1200	1
-----/1842	SST ANALYSIS	LATEST	9
-----/1852	SST ANALYSIS	LATEST	6
0737/1902	TROICAL GOES IR SATELLITE IMAGE	06/18	7
0748/1913	WIND/WAVE ANALYSIS	06/18	8
0758/1923	24HR 500MB FORECAST	00/12	1
0808/1933	24HR SURFACE FORECAST	00/12	8
0818/1943	24HR WIND/WAVE FORECAST	00/12	8
0828/1953	48HR 500MB FORECAST	00/12	1
0838/2003	48HR SURFACE FORECAST	00/12	1

0848/2013	48HR WND/WAVE FORECAST	00/12	1
0858/2023	48HR WAVE PERIOD/SWELL DIRECTION	00/12	1
-----/2033	96HR 500MB FORECAST	1200	1
-----/2043	96HR SURFACE FORECAST	1200	1
-----/2053	96HR WIND/WAVE FORECAST	1200	1
-----/2103	96HR WAVE PERIOD/SWELL DIRECTION	1200	1
0908/2113	PACIFIC GOES IR SATELLITE IMAGE	06/18	5
0919/2124	SURFACE ANALYSIS (PART 1 - NE PACIFIC)	06/18	2
0932/2137	SURFACE ANALYSIS (PART 2 - NW PACIFIC)	06/18	3
0945/2150	TROPICAL SURFACE ANALYSIS	06/18	4
0959/2204	TROPICAL 24HR WIND/WAVE FORECAST	06/18	4
1009/2214	TROPICAL CYCLONE DANGER AREA* or HIGH WIND/WAVES	09/21	10
1120/2320	TEST PATTERN		
1124/2324	BROADCAST SCHEDULE (PART 1)		
1135/2335	BROADCAST SCHEDULE (PART 2)		
1146/-----	REQUEST FOR COMMENTS		
1157/-----	PRODUCT NOTICE BULLETIN		
1208/-----	TROPICAL 48HR WIND/WAVE FORECAST	1200	4
1218/-----	TROPICAL 72HR WIND/WAVE FORECAST	1200	4
1228/2346	TROPICAL 48HR WAVE PERIOD/SWELL DIRECTION	12/00	4
-----/2356	TROPICAL 72HR WAVE PERIOD/SWELL DIRECTION	0000	4

Map Areas

1	20N - 70N	115W - 135E	6	23N - 60N	EAST OF 150W
2	20N - 70N	115W - 175W	7	05N - 32N	EAST OF 130W
3	20N - 70N	175W - 135E	8	18N - 62N	EAST OF 157W
4	20S - 30N	EAST OF 145W	9	40N - 53N	EAST OF 136W
5	05N - 55N	EAST OF 180W	10	0N - 40N	80W - 180W

Notes:

1. Many of these charts are also broadcast from Kodiak, AK and Honolulu, HI.
2. Map area 8 changed from a polar stereographic to a Mercator projection.
3. Transmission power reduced from 10kW to 4 kW.
4. Website: <http://weather.noaa.gov/pub/fax/hfreyes.txt>
5. Weather Fax on the web: http://www.opc.ncep.noaa.gov/shtml/P_HighSeas.shtml

← FREQUENCIES →

ASSIGNED kHz	ADJUSTED FOR SSB - kHz	TIMES	RPM/IOC	EMISSION	POWER
9982.5 KHz	9880.6	0533-1630 Z	120/576	F3C	4 kW
11090.0 KHz	11088.1	CONTINUOUS	120/576	F3C	4 kW
16135.0 KHz	16133.1	EXCEPT 1030-1630 Z	120/576	F3C	4 kW

TIME UTC	CONTENTS OF TRANSMISSION	VALID	MAP
0007/1147	PACIFIC STREAMLINE ANALYSIS	18/06	K
-----/1210	48 HR SURFACE FORECAST	1200	G
0030/1230	EAST PACIFIC GOES IR SATELLITE IMAGE	LATEST	EP
0045/1245	WEST PACIFIC GOES IR SATELLITE IMAGE	LATEST	SP
0103/1304	PACIFIC SURFACE PRESSURE ANALYSIS	18/06	J
0128/1328	48HR SURFACE / 1000-500 MB THICKNESS FORECAST	18/06	C
0148/1350	TROPICAL SURFACE ANALYSIS	18/06	H
0209/-----	24HR STREAMLINE/ISOTACH FORECAST	0000	D
0234/-----	48HR STREAMLINE/ISOTACH FORECAST	0000	D
0258/1444	24 HR WIND/WAVE FORECAST	00/12	G
0309/1503	48/72HR WIND/WAVE FORECAST	00/12	G
0320/1522	48/72HR WAVE PERIOD/SWELL DIR	00/12	G
0331/1541	REBROADCAST OF 0103/1304	18/06	J
-----/1607	24 HR SURFACE FORECAST	1200	G
0354/1618	72 HR SURFACE FORECAST	00/12	G
0405/-----	PACIFIC SEA STATE ANALYSIS	1800	D
0437/1630	TROPICAL CYCLONE DANGER AREA	03/15	M
0533/1733	TEST-ID-SYMBOLS-GENERAL NOTICE		
0545/1745	SIGNIFICANT CLOUD FEATURES	00/12	A
0605/1804	PACIFIC STREAMLINE ANALYSIS	00/12	K
0630/1827	EAST PACIFIC GOES IR SATELLITE IMAGE	LATEST	EP
0645/1842	WEST PACIFIC GOES IR SATELLITE IMAGE	LATEST	SP
0656/1853	PACIFIC SURFACE PRESSURE ANALYSIS	00/12	J
0721/1918	PACIFIC OCEAN SEA SURFACE TEMPS	LATEST	NPA
0741/1937	24 HR WIND/WAVE FORECAST	06/18	G
0800/1956	TROPICAL SURFACE ANALYSIS	00/12	H
0823/-----	24 HR SEA STATE FORECAST	1800	K
1030/-----	TROPICAL CYCLONE DANGER AREA	0900	M
1045/2018	SCHEDULE PART I		
1111/2045	SCHEDULE PART II		
-----/2230	TROPICAL CYCLONE DANGER AREA	2100	M
-----/2335	24HR SURFACE FORECAST	0000	G
-----/2345	48HR SURFACE FORECAST	0000	G

MAP AREAS:

A	50N - 30S, 110W - 160E
C	60N - 55S, 055W - 070E
D	50N - 30S, 100W - 120E
E	DISCONTINUED
F	DISCONTINUED
G	30N - 20S, 145W - 080W
H	40N - 40S, 105W - 120E

J	50N - EQ, 110W - 130E
K	30N - 30S, 110W - 130E
M	EQ - 40N, 80W - 180W
EP	55N - 05S, 110W - 155E
SP	05N - 40S, 130W - 165E
NPA	55N - EQ, 010W - 160E

NOTES:

1. 23331.5 KHZ IS NO LONGER USED

2. TROPICAL STREAM-FUNCTION ANALYSIS AND THE WIND/STREAM-FUNCTION FORECAST CHARTS DISPLAY 1000 MILLIBAR STREAM FUNCTION LINES. FOR SPEEDS IN KNOTS FOR ALL LATITUDES DIVIDE 50 BY THE SPACING BETWEEN THE STREAM FUNCTION LINES EXPRESSED IN DEGREES OF LATITUDE.

3. THE SIGNIFICANT CLOUD FEATURES CHARTS DEPICT CLOUD FEATURES BASED UPON IMAGES FROM THE VARIOUS GEOSTATIONARY AND POLAR ORBITING SATELLITES OVER THE PACIFIC. ABBREVIATIONS ON THESE CHARTS INCLUDE:

AC - ALTOCUMULUS;	CS - CIRROSTRATUS;	OVC - OVERCAST;
AS - ALTOSTRATUS;	CU - CUMULUS;	SC - STRATO-CUMULUS;
BKN - BROKEN;	FEW - FEW;	SCT - SCATTERED;
CB - CUMULONIMBUS;	ISOL - ISOLATED;	TCU - TOWERING CUMULUS;
CC - CIRROCUMULUS;	LYRS - LAYERS;	TSTM - THUNDERSTORM
CI - CIRRUS;	NS - NIMBOSTRATUS;	

4. TRANSMITTERS MAY BROADCAST AT 10KW AT TIMES.

← FREQUENCIES →

ASSIGNED kHz	ADJUSTED FOR SSB - kHz	TIMES	RPM/IOC	EMISSION	POWER
2054.0	2052.1	CONTINUOUS	120/576	F3C	7.5 kW
4298.0	4296.1	CONTINUOUS	120/576	F3C	7.5 kW
8459.0	8457.1	CONTINUOUS	120/576	F3C	7.5 kW
12412.5	12410.6	CONTINUOUS	120/576	F3C	7.5 kW

TIME UTC	CONTENTS OF TRANSMISSION	VALID TIME	MAP AREA
0400/1600	TEST PATTERN		
0403/1603	SURFACE ANALYSIS	00/12	2
0427/1627	REBROADCAST 24HR SURFACE F'CAST 2227/1027	12/00	3*
0437/1637	REBROADCAST 48HR SURFACE F'CAST 2237/1037	12/00	1
0447/1647	COASTAL MARINE FORECAST TABLES (ALASKA)	LATEST	
0456/1656	SEA STATE ANALYSIS / REBROADCAST	00/00	1
0506/1706	GOES IR SATELLITE IMAGE	00/12	5
0517/1717	500 MB ANALYSIS	00/12	1
0527/1727	SYMBOLS AND CONTRACTIONS / SCHEDULE		
0548/1748	REQUEST FOR COMMENTS / PRODUCT NOTICE		
0558/1758	24 HR 500 MB FORECAST	00/12	1
0950/2150	TEST PATTERN		
0953/2153	SURFACE ANALYSIS	06/18	2
1017/2217	24HR SURFACE FORECAST	00/12	3*
1027/2227	24 HR SURFACE FORECAST	00/12	3*
1037/2237	48HR SURFACE FORECAST	00/12	1
1047/2247	48HR WIND/WAVE FORECAST	00/12	1
1057/2257	5-DAY SEA ICE FORECAST/SEA ICE ANALYSIS	LATEST	6
1117/2317	GOES IR SATELLITE IMAGE	00/12	5
1128/2328	48HR WAVE PERIOD, SWELL DIRECTION	00/12	1
1138/2338	48HR 500 MB ANALYSIS	00/12	1
1148/-----	SEA SURFACE TEMPERATURE ANALYSIS	LATEST	4
1159/-----	COOK INLET SEA ICE FORECAST	LATEST	7
-----/2348	96HR SURFACE FORECAST	1200	1
-----/2358	96HR WIND/WAVE FORECAST	1200	1
-----/0008	96HR WAVE PERIOD, SWELL DIRECTION	1200	1
-----/0018	96HR 500 MB ANALYSIS	1200	1

MAP AREAS:

1	20N - 70N, 115W - 135E	5	05N - 60N, 110W - 160W
2	40N - 70N, 125W - 150E	6	ICE COVERED AK WATERS
3	42N - 72N, 122W - 155E	7	COOK INLET
4	40N - 60N, 125W - 160E		

NOTE: Transmitter power reduced from 10 kW to 7.5 kW

← FREQUENCIES →

ASSIGNED	Adjusted		IOC/RPM	
kHz	For SSB - kHz			
2618.5	2616.6		576/120	Three of the Four Frequencies in use at any one time depending upon requirement
4610	4608.1		576/120	
8040	8038.1		576/120	
11086.5	11084.6		576/120	

UTC	Transmission Contents		Valid Time	UTC	Transmission Contents		Valid Time
0000	SFC ANALYSIS		18 Z	1200	SFC ANALYSIS		06 Z
0012	SFC PROGNOSIS	T+24	18 Z	1212	SFC PROGNOSIS	T+24	06 Z
0024	850 MB WBPT /PPTN	T+24	18 Z	1224	850 MB WBPT /PPTN	T+24	06 Z
0036	OAT AND TD CONTOUR	T+24	18 Z	1236	OAT AND TD CONTOUR	T+24	06 Z
0048	SHIP ICE ACCRETION		12 Z	1248	SHIP ICE ACCRETION		00 Z
0100	MAIN SCHEDULE			1300	MAIN SCHEDULE		
0124	QSL REPORT			1324	QSL REPORT		
0136	OCEAN FRONTS			1336	OCEAN FRONTS		
0148	300 MB GPH		18 Z	1348	300 MB GPH		06 Z
0212	SYMBOLGY			1400	SEA SURFACE - TEMP	T+12	
0236	SFC ANALYSIS		00 Z	1436	SFC ANALYSIS		12 Z
0300	SFC ANALYSIS		00 Z	1500	SFC ANALYSIS		12 Z
0348	GALE WARNING SUMMARY		04 Z	1548	GALE WARNING SUMMARY		16 Z
0400	SFC ANALYSIS		00 Z	1600	SFC ANALYSIS		12 Z
0412	OAT AND TD CONTOUR	T+24	00 Z	1612	OAT AND TD CONTOUR	T+24	12 Z
0424	850 MB WBPT / PPTN	T+24	00 Z	1624	850 MB WBPT / PPTN	T+24	12 Z
0436	SFC PROGNOSIS	T+24	00 Z	1636	SFC PROGNOSIS	T+24	12 Z
0448	SCEXA TAFS		06 Z	1648	SCEXA TAFS		18 Z
0500	SFC ANALYSIS		00 Z	1700	SFC ANALYSIS		12 Z
0512	SFC PROGNOSIS	T+24	00 Z	1712	SFC PROGNOSIS	T+24	12 Z
0524	SFC PROGNOSIS	T+48	00 Z	1724	SFC PROGNOSIS	T+48	12 Z
0536	SCEXA TAFS		06 Z	1736	SCEXA TAFS		18 Z
0548	GALE WARNING SUMMARY		06 Z	1748	GALE WARNING SUMMARY		18 Z
0600	SFC ANALYSIS		00 Z	1800	SFC ANALYSIS		12 Z
0612	SFC PROG	T+24	00 Z	1812	SFC PROG	T+24	12 Z
0624	JMC SIG WX	T+12	00 Z	1824	JMC SIG WX	T+12	12 Z
0636	JMC SIG WX	T+24	00 Z	1836	JMC SIG WX	T+24	12 Z
0648	SCEXA TAFS		07 Z	1848	SCEXA TAFS		19 Z
0700	SFC PROGNOSIS		7 Z	1900	SPARE SCEKA TAFS		19 Z
0712	SIG WINDS	T+24	00 Z	1912	SIG WINDS	T+24	12 Z
0724	SFC PROGNOSIS	T+48	00 Z	1924	SFC PROGNOSIS	T+48	12 Z
0736	SFC PROGNOSIS	T+72	00 Z	1936	SFC PROGNOSIS	T+72	12 Z
0748	SFC PROGNOSIS	T+96	00 Z	1948	SFC PROGNOSIS	T+96	12 Z
0800	SFC PROGNOSIS	T+120	00 Z	2000	SFC PROGNOSIS	T+120	12 Z

0812	THICKNESS / GPH ANALYSIS		00 Z		2012	THICKNESS/GPH ANALYSIS		12 Z
0824	SIG WINDS	T+48	00 Z		2024	SIG WINDS	T+48	12 Z
0836	SIG WINDS	T+72	00 Z		2036	SIG WINDS	T+72	12 Z
0848	SIG WINDS	T+96	00 Z		2048	SIG WINDS	T+96	12 Z
0900	SFC ANALYSIS		06 Z		2100	SFC ANALYSIS		18 Z
0912	THICKNESS /GPH ANALYSIS		00 Z		2112	THICKNESS / GPH ANALYSIS		12 Z
0924	THICKNESS /GPH	T+24	00 Z		2124	THICKNESS / GPH	T+24	12 Z
0936	850 MB SPOT WINDS	T+24	00 Z		2136	850 MB SPOT WINDS	T+24	12 Z
0948	700 MB SPOT WINDS	T+24	00 Z		2148	700 MB SPOT WINDS	T+24	12 Z
1000	SFC ANALYSIS		06 Z		2200	SFC ANALYSIS		18 Z
1012	SFC PROGNOSIS	T+24	06 Z		2212	SFC PROGNOSIS	T+24	18 Z
1024	REDUCED VIS	T+24	06 Z		2224	REDUCED VIS	T+24	18 Z
1036	850 MB WBPT /PPTN	T+24	06 Z		2236	850 MB WBPT / PPTN	T+24	18 Z
1048	OAT AND TD CONTOUR	T+24	06 Z		2248	OAT AND TD CONTOUR	T+24	18 Z
1100	SFC ANALYSIS		06 Z		2300	SFC ANALYSIS		18 Z
1112	SFC PROGNOSIS	T+24	06Z		2312	SFC PROGNOSIS	T+24	18 Z
1124	SEA AND SWELL	T+24	06 Z		2324	SEA AND SWELL	T+24	18 Z
1136	THICKNESS /GPH ANALYSIS	T+24	00 Z		2336	THICKNESS /GPH ANALYSIS	T+24	12 Z
1148	GALE WARNING SUMMARY		00 Z		2348	GALE WARNING SUMMARY		12 Z

3.11 **GERMAN WEATHER SERVICE - OFFENBACH (MAIN), GERMANY - (HAMBURG/PINNEBERG)**
UPDATED BY SSB: 2 MAY 2006

← FREQUENCIES →

ASSIGNED kHz	ADJUSTED FOR SSB - kHz	CALL SIGN	RPM / IOC	EMISSION	POWER
3855.0	3883.1	DDH3	576 / 120	F1C	10 kW
7880.0	7878.1	DDK3	576 / 120	F1C	20 kW
13882.5	13880.6	DDK6	576 / 120	F1C	20 kW

TIME UTC	CONTENTS OF TRANSMISSION	MAP AREA	VALID TIME UTC
0430	SURFACE WEATHER CHART	NA	0000
0512	SURFACE PROG H + 30	NA	1800
0525	SURFACE PRESSURE ANALYSIS W/ ARROWS SHOWING MOVEMENT OF PRESSURE SYSTEMS, STORMS, SIGNIFICANT WX AND ICE	NT1	0000
0546	TROPICAL STORMS - NORTH ATLANTIC – SEASONAL		0300
0559	500 MB TEMP & SURFACE PRESSURE PROG H+12, H+24	NA	0000
0612	850 MB TEMP, 700 MB HUMIDITY PROG H+12, H+24	NA	0000
0625	500 MB TEMP, SURFACE PRESSURE PROG H+36, H+48	NA	0000
0638	850 MB TEMP, 700 MB HUMIDITY PROG H+36, H+48	NA	0000
0651	500 MB TEMP, SURFACE PRESSURE PROG H+60, H+72	NA	0000
0704	850 MB TEMP, 700 MB RELATIVE HUMIDITY PROG H+60, H+72	NA	0000
0717	REPEAT CHART 0512 Z	NA	0000
0730	SURFACE PROG H+48	NA	0000
0743	REPEAT CHART 0525 Z	NT1	0000
0804	SURFACE PROG H+72	NA	0000
0817	SURFACE PROG H+96	NA	0000
0830	SEA & SWELL, WIND & SWELL DIRECTION H+24	NA	0000
0842	SEA & SWELL, WIND & SWELL DIRECTION H+48	NA	0000
0854	SEA & SWELL, WIND & SWELL DIRECTION H+72	NA	0000
0906	SEA & SWELL, WIND & SWELL DIRECTION H+96	NA	0000
0930	ICE CONDITIONS - NORTH WEST ATLANTIC	NT2 & NT3	0000
0945	SEA SURFACE TEMPERATURE - NORTH SEA	EN	0000
1007	ICE CONDITIONS - WEST BALTIC SEA – SEASONAL	BQ1	0000
1029	WAVE PROG H+48	NT4	0000
1050	SURFACE WEATHER CHART	NA	0600
1111	SCHEDULE		
1132	TEST CHART		
1145	REPEAT CHART 1050 Z	NA	0600
1520	ICE CONDITIONS - W BALTIC OR SPECIAL AREA - SEASONAL	BQ2 / XX1	0900
1540	ICE CONDITIONS - W BALTIC OR SPECIAL AREA - SEASONAL	BQ3 / XX2	0900
1600	SURFACE WEATHER CHART	NA	1200
1800	SURFACE PRESSURE ANALYSIS W/ ARROWS SHOWING MOVEMENT OF PRESSURE SYSTEMS, STORMS, SIGNIFICANT WX AND ICE	NT1	1200
1821	TROPICAL STORMS - NORTH ATLANTIC – SEASONAL		1200
1834	SURFACE PRESURE H+24	NA	1200

1847	SURFACE PRESURE H+40	NA	1200
1900	SURFACE PRESURE H+72	NA	1200
1913	SEA & SWELL, WIND & SWELL DIRECTION H+24	NA	1200
1920	SEA & SWELL, WIND & SWELL DIRECTION H+48	NA	1200
1938	SEA & SWELL, WIND & SWELL DIRECTION H+72	NA	1200
2100	ICE CONDITIONS - NORTH WEST ATLANTIC - SEASONAL	NT2 & NT3	1200
2115	ICE CONDITIONS - W BALTIC SEA – SEASONAL	BQ2	1500
2137	WAVE PROG H+48	NT4	1200
2200	SURFACE WEATHER CHART	NA	1800

Notes Ice conditions (as required) provided by Canadian Ice Service or USCG International Ice Patrol

Map Areas

BQ1	58 N, 08 E - 58N, 16 E x 53 N, 08 E - 53 N, 16 E	Stereographic
BQ2	66 N, 12 E - 66 N, 30 E x 57 N, 12 E - 57 N, 30 E	Stereographic
BQ3	58 N, 08 E - 58N, 22 E x 54 N, 08 E - 53 N, 22 E	Mercator
EN	60 N, 09 W - 62 N, 12 E x 50 N, 04 W - 51 N, 12 E	Mercator
NA	43 N, 67 W - 61 N, 79 W x 19 N, 27 W - 27 N, 33 E	Stereographic
NT1	41 N, 114 E - 60 N, 36 E x 14 N, 70 W - 21 N, 13 W	Stereographic
NT2	59 N, 82 W - 61 N, 28 W x 43 N, 70 W - 44 N, 35 W	Stereographic
NT3	53 N, 70 W - 52 N, 26 W x 36 N, 63 W - 36 N, 42 E	Stereographic
NT4	48 N, 117 W - 63 N, 42 E x 05 N, 63 W - 10 N, 18 W	Stereographic

3.12 RTTY Broadcast Schedule – German Weather Service, Hamburg, Germany

Note: With SSB, RTTY frequencies must be adjusted 1.34 kHz down. However, some modems require a 1.9 kHz adjustment for proper reception. These adjustments are indicated in the following table. See “Offshore Communications Memorandum” for more details.

Assigned kHz	Frequency Adjusted 1.34 kHz	Frequency Adjusted 1.9 kHz	Hours of Operation	Power	Emission	Call sign
4583.0	4581.66	4581.1	0000 - 2400	1 kW	F1B (50 baud)	DDK 2
7646.0	7644.66	7644.1	0000 - 2400	1 kW	F1B (50 baud)	DDH 7
10100.8	10099.46	10098.9	0000 - 2400	10 kW	F1B (50 baud)	DDK 9
147.3	145.96	145.4	0500 - 2200	15 kW	F1B (50 baud)	DDH 47
11039.0	11037.66	11037.1	0500 - 2200	1 kW	F1B (50 baud)	DDH 9
14467.3	14465.96	14465.4	0500 - 2200	1 kW	F1B (50 baud)	DDH 8

Progr. 1	Progr. 2	Contents
0:00	----	Strong wind, gale and storm warnings for German Bight, Western and Southern Baltic Sea, German North Sea and Baltic Sea coast (in German / English)
0:05	----	Weather report North Sea and Baltic Sea (in English) Weather situation, forecast valid for 12 hours and outlook valid for another 12 hours
0:20	----	Weather report German North Sea and Baltic Sea coast (in English) Weather situation and forecast valid for 12 hours
0:30	----	Advice on the use of weather data (in English)
0:35	----	SYNOP (FM 12-XI Ext.) Coded station reports from Europe, North America and North Africa
2:00	----	SHIP (FM 13-XI Ext.) Coded ship reports from North Sea, North Polar Sea, Atlantic and Mediterranean Sea
3:00	----	Warnings for the sea areas (in German / English), see 00:00 UTC
3:05	----	Weather report North Sea and Baltic Sea (in English), see 00:05 UTC
3:20	----	Weather report German North Sea and Baltic Sea coast (in English), see 00:20 UTC
3:30	----	Medium range weather report Baltic Sea (in English) Weather situation and time series forecast for 5 days
3:55	----	Medium range weather report North Sea (in English) Weather situation and time series forecast for 5 days
4:15	----	Medium range weather report Mediterranean Sea (in English) Weather situation and time series forecast for 5 days
4:40	----	SHIP (FM 13-XI Ext.), see 02:00 UTC
----	5:00	Warnings for the sea areas (in German / English), see 00:00 UTC
----	5:05	Weather report North Sea and Baltic Sea (in German), see 00:05 UTC
5:15	----	Navigational warnings for North Sea, Baltic Sea and German coast (in German / English)
----	5:20	Weather report German North Sea and Baltic Sea coast (in German), see 00:20 UTC
----	5:30	Station reports North Sea and Baltic Sea (in German)
----	5:35	Medium range weather report Mediterranean Sea (in German), see 04:15 UTC
5:35	----	Weather report North Sea and Baltic Sea (in English), see 00:05 UTC
5:50	----	Weather report German North Sea and Baltic Sea coast (in English), see 00:20 UTC
6:00	6:00	Warnings for the sea areas (in German / English), see 00:00 UTC
----	6:05	Weather report North Sea and Baltic Sea (in German), see 05:05 UTC
6:05	----	Advice on the use of weather data (in English)
6:10	----	SYNOP (FM 12-XI Ext.), see 00:35 UTC
----	6:20	Weather report German North Sea and Baltic Sea coast (in German), see 05:20 UTC

----	6:30	Weather report Norwegian Sea and Baltic Sea (in German). Route North Cape - Shetlands, The Quark - Gulf of Finland. Weather situation and time series forecast for 2 days
----	7:00	Weather report North Atlantic (in German). Route Pentlands - Southwest Greenland. Weather situation and time series forecast for 2 days
----	7:25	Station reports North Sea and Baltic Sea (in German)
----	7:30	Station reports Mediterranean Sea (in German)
7:35	7:35	SHIP (FM 13-XI Ext.), see 02:00 UTC
8:15	----	BUOY (FM 13-XI Ext.) Coded buoy reports from North Polar Sea and Atlantic
----	8:20	Weather report Western European Sea (in German). Route Southern Ireland - Area Canarias. Weather situation and time series forecast for 2 days
8:35	----	Weather report North Sea and Baltic Sea (in English), see 00:05 UTC
----	8:40	Weather report Western Mediterranean Sea (in German). Route Alboran - Tunis. Weather situation and time series forecast for 2 days
8:50	----	Weather report German North Sea and Baltic Sea coast (in English), see 00:20 UTC
9:00	9:00	Warnings for the sea areas (in German / English), see 00:00 UTC
----	9:05	Weather report North Sea and Baltic Sea (in German), see 05:05 UTC
9:05	----	Weather report Norwegian Sea and Baltic Sea (in English), see 06:30 UTC (Progr. 2)
----	9:20	Weather report German North Sea and Baltic Sea coast (in German), see 05:20 UTC
9:30	----	Weather report North Atlantic (in English), see 07:00 UTC (Progr. 2)
----	9:30	Weather report Eastern Mediterranean Sea (in German). Route Eastern Tunis - Rhodes/Cyprus. Weather situation and time series forecast for 2 days
----	9:50	Navigational warnings for North Sea, Baltic Sea and German coast (in German / English)
9:55	----	Weather report Western European Sea (in English), see 08:20 UTC (Progr. 2)
10:15	----	Weather report Western Mediterranean Sea (in English), see 08:40 UTC (Progr. 2)
----	10:10	Advice on the use of weather data (in German)
		Notices (in German)
----	10:25	Station reports North Sea and Baltic Sea (in German)
----	10:30	Station reports Mediterranean Sea (in German)
10:35	----	SHIP (FM 13-XI Ext.), see 02:00 UTC
----	10:35	Medium range weather report Baltic Sea (in German), see 03:30 UTC (Progr. 1)
----	11:00	Medium range weather report North Sea (in German), see 03:55 UTC (Progr. 1)
11:10	----	Notices (in English)
11:15	----	Weather report Eastern Mediterranean Sea (in English), see 09:30 UTC (Progr. 2)
----	11:20	Medium range weather report Mediterranean Sea (in German), see 04:15 (Progr. 1)
11:35	----	Weather report North Sea and Baltic Sea (in English), see 00:05 UTC
----	11:45	Special transmissions for research vessels (only if required)
11:50	----	Weather report German North Sea and Baltic Sea coast (in English), see 00:20 UTC
12:00	12:00	Warnings for the sea areas (in German / English), see 00:00 UTC
----	12:05	Weather report North Sea and Baltic Sea (in German), see 05:05 UTC
12:05	----	Advice on the use of weather data (in English)
12:10	----	SYNOP (FM 12-XI Ext.), see 00:35 UTC
----	12:20	Weather report German North Sea and Baltic Sea coast (in German), see 05:20 UTC
----	12:30	Repetition weather report Norwegian Sea and Baltic Sea (in German), see 06:30 UTC
----	13:00	Repetition weather report North Atlantic (in German), see 07:00 UTC
----	13:25	Station reports North Sea and Baltic Sea (in German)
----	13:30	Station reports Mediterranean Sea (in German)
13:35	13:35	SHIP (FM 13-XI Ext.), see 02:00 UTC
----	14:20	Repetition weather report Western European Sea (in German), see 08:20 UTC
14:35	----	Weather report North Sea and Baltic Sea (in English), see 00:05 UTC
----	14:40	Repetition weather report Western Mediterranean Sea (in German), see 08:40 UTC
14:50	----	Weather report German North Sea and Baltic Sea coast (in English), see 00:20 UTC

15:00	15:00	Warnings for the sea areas (in German / English), see 00:00 UTC
-----	15:05	Weather report North Sea and Baltic Sea (in German), see 05:05 UTC
15:05	-----	Medium range weather report Baltic Sea (in English), see 03:30 UTC
-----	15:20	Weather report German North Sea and Baltic Sea coast (in German), see 05:20 UTC
15:30	-----	Medium range weather report North Sea (in English), see 03:55 UTC
-----	15:30	Repetition weather report Eastern Mediterranean Sea (in German), see 09:30 UTC
-----	15:45	Repetition medium range weather report Baltic Sea (in German), see 10:35 UTC
15:50	-----	Weather report Mediterranean Sea (in English) Weather situation and forecast valid for 24 hours
-----	16:10	Weather report Mediterranean Sea (in German) Weather situation and forecast valid for 24 hours
16:10	-----	Medium range weather report Mediterranean Sea (in English), see 04:15 UTC
-----	16:25	Station reports North Sea and Baltic Sea (in German)
-----	16:30	Station reports Mediterranean Sea (in German)
-----	16:35	Repetition medium range weather report North Sea (in German), see 11:00 UTC and/or Special transmissions for research vessels (only if required)
16:35	-----	SHIP (FM 13-XI Ext.), see 02:00 UTC
17:15	17:15	Navigational warnings for North Sea, Baltic Sea and German coast (in German / English)
-----	17:35	Repetition medium range weather report Mediterranean Sea (in German), see 11:20 UTC
17:35	-----	Weather report North Sea and Baltic Sea (in English), see 00:05 UTC
17:50	-----	Weather report German North Sea and Baltic Sea coast (in English), see 00:20 UTC
18:00	18:00	Warnings for the sea areas (in German / English), see 00:00 UTC
-----	18:05	Weather report North Sea and Baltic Sea (in German), see 05:05 UTC
18:05	-----	Advice on the use of weather data (in English)
18:10	-----	SYNOP (FM 12-XI Ext.), see 00:35 UTC
-----	18:20	Weather report German North Sea and Baltic Sea coast (in German), see 05:20 UTC
-----	18:30	Weather report Norwegian Sea and Baltic Sea (in German), see 06:30 UTC
-----	19:00	Weather report North Atlantic (in German), see 07:00 UTC
-----	19:25	Station reports North Sea and Baltic Sea (in German)
-----	19:30	Station reports Mediterranean Sea (in German)
19:35	19:35	SHIP (FM 13-XI Ext.), see 02:00 UTC
20:15	-----	BUOY (FM 13-XI Ext.), see 08:15 UTC
-----	20:20	Weather report Western European Sea (in German), see 08:20 UTC
20:35	-----	Weather report North Sea and Baltic Sea (in English), see 00:05 UTC
-----	20:40	Weather report Western Mediterranean Sea (in German), see 08:40 UTC
20:50	-----	Weather report German North Sea and Baltic Sea coast (in English), see 00:20 UTC
21:00	21:00	Warnings for the sea areas (in German / English), see 00:00 UTC
-----	21:05	Weather report North Sea and Baltic Sea (in German), see 05:05 UTC
21:05	-----	Weather report Norwegian Sea and Baltic Sea (in English), see 09:05 UTC
-----	21:20	Weather report German North Sea and Baltic Sea coast (in German), see 05:20 UTC
21:30	-----	Weather report North Atlantic (in English), see 09:30 UTC
-----	21:30	Weather report Eastern Mediterranean Sea (in German), see 09:30 UTC
21:55	-----	Weather report Western European Sea (in English), see 09:55 UTC
22:15	-----	Weather report Western Mediterranean Sea (in English), see 10:15 UTC
22:35	-----	SHIP (FM 13-XI Ext.), see 02:00 UTC
23:15	-----	Weather report Eastern Mediterranean Sea (in English), see 11:15 UTC
as available		Warnings for Baltic Sea (in English)
as available		Warnings for North Sea and Baltic Sea (in English)
as available		Warnings for North Sea and Baltic Sea (in German)

3.12.1 German Weather Service - RTTY Broadcast Sequence & Location

Caution: The names of the following locations can be somewhat misleading. For example, the Tyrrhenian Sea location at La 41.5° N, Lo 10.5° E is really just east of the Bonifacio Strait, about 90 miles to the NW of central Tyrrhenian. Clearly, the weather at the Bonifacio Strait, usually windy, will not be the same as that of the rest of the Tyrrhenian Sea. The prudent navigator will make suitable notation on his charts.

The following listing is of the early morning broadcasts of most interest to the cruiser.

BALTIC	La °	λ °
START ~0330 Z		
SKAGERRAK	57.5N	8.9E
KATTEGAT	56.9N	11.5E
BELTS/SOUND	55.5N	10.9E
WESTERN BALTIC	54.7N	12.4E
BODDENGW – E	54.3N	14.0E
S-BALTIC	54.6N	15.7E
SE-BALTIC	56.2N	17.8E
CENTRL BALTIC	58.1N	20.2E
N- BALTIC	59.9N	20.9E
GULF OF RIGA	57.8N	23.5E
GULF FINLAND	60.1N	26.0E
SEA OF ALAND	60.4N	19.9E
BOTHNIA SEA	61.9N	19.8E
QUARK	63.6N	21.1E
BOTHNIA BAY	65.1N	23.4E

NORTH	La °	λ °
START ~0355 Z		
GERMAN BIGHT	54.7N	5.7E
HUMBER	53.3N	2.3E
THAMES	51.6N	2.2E
DOGGER	55.2N	2.2E
FORTIES	57.1N	1.7E
FISHER	57.4N	5.3E
VIKING	60.1N	0.8E
UTSIRA-SOUTH	58.3N	5.1E
UTSIRA - NORTH	60.3N	4.0E
SKAGERRAK	57.5N	8.9E
IJSSELMEER	53.0N	5.1E
ENGLISH-CH.-E	50.1N	1.2W
ENGLISH-CH.-W	49.6N	4.1W

MEDITERRANEAN	La °	λ °
START ~0415 Z		
GOLFE DU LION	42.2N	4.5E
BALEARIC ISLANDS	39.2N	3.7E
LIGURIAN SEA	43.3N	9.3E
W OF CORSE/SARD.	41.4N	7.2E
TYRRHENIAN SEA	41.5N	10.5E
ADRIA-NORTH	44.3N	13.5E
ADRIA-SOUTH	41.6N	17.7E
BOOT-S	37.7N	17.0E
IONIAN SEA	37.3N	19.2E
AEGEAN SEA-N	38.9N	25.4E
AEGEAN SEA-S	36.0N	25.4E
RHODES/CYPR	34.9N	30.6E
BAY OF BISCAY	46.4N	5.7W
BLACKSEA-W	43.3N	30.8E
BLACKSEA-E	43.6N	35.3E

3.12.2 Additional German Weather Service RTTY Locations

In addition to the early morning broadcast above, the German Weather Service gives the weather for various other areas during the day listed below. Note that the coordinates for these locations are not necessarily the same as that above.

NORTH ATLANTIC		
AREA	La °	λ °
NORTH CAPE	72.2N	25.3E
LOFOTEN	68.6N	13.9E
HALTENBANK	65.5N	8.6E
SVINOY	62.3N	4.2E
FAEROES	60.7N	5.6W
PENTLAND FIRTH	59.4N	3.1W
HEBRIDES	57.9N	8.1W
SHETLANDS	60.9N	1.6W
BAY OF BOTHNIA	65.0N	23.5E
QUARK	63.7N	21.0E
SEA OF BOTHNIA	62.0N	19.5E
SEA OF ALAND	61.0N	20.0E
GULF OF FINLAND	60.0N	25.8E
AREA 56	57.4N	15.7W
AREA 51	52.1N	15.1W
PENTL.-FARVEL 1	60.0N	15.0W
PENTL.-FARVEL 2	59.0N	21.7W
PENTL.-FARVEL 3	60.5N	31.2W
CAPE FARVEL	58.1N	43.5W
SE-GREENLAND	61.2N	38.5W
SW-GREENLAND	60.3N	50.0W
S OF IRELAND	50.9N	7.7W

WEST OF EUROPE		
AREA	La °	λ °
LYME BAY	50.3N	3.0W
BAY OF BISCAY	46.4N	5.7W
FINISTERRE	43.5N	9.8W
W OF PORTUGAL	39.5N	10.4W
W OF GIBRALTAR	36.0N	6.6W
CANARIAS- S	30.0N	15.0W
ALBORAN	36.0N	2.3W
PALOS	37.0N	0.0W

MEDITERRANEAN		
AREA	La °	λ °
S OF SICILY	35.9N	12.3E
OESTL.TUNIS	34.6N	18.3E
S OF CRETE	34.1N	23.4E
PORT-SAID	32.1N	31.2E
ALGIER	37.6N	5.1E

4 Navtex Stations

4.1 Navtex Message Codes

Codes for Navtex messages are standard world wide:

A	Navigation Warnings	J	GPS and GLONASS Status
B	Gale Warnings	K	Other Electronic Navaid
C	Ice Reports	L	Navigational Warnings - Sub & Gunnery Activity
D	SAR Info & Pirate Warnings	V	Amplify A Above
E	Weather Forecasts	W	Environmental - US Only (Not Used)
F	Pilot Service Messages	X	Special Services - IMO
G	Decca Messages	Y	Not Used
H	LORAN Messages	Z	No Message On Hand
I	OMEGA Messages (discontinued)	NNNN	End Of Message

4.2 US And Bermuda Navtex Stations And Broadcast Schedule

US Stations	Identifier	Broadcast Schedule (UTC)						Call Sign
Bermuda	B	0010	0410	0810	1210	1610	2010	ZBM
Boston	F	0045	0445	0845	1245	1645	2045	NMF
Portsmouth	N	0130	0530	0930	1330	1730	2130	NMN
Savannah	E	0040	0440	0840	1240	1640	2040	NMN
Miami	A	0000	0400	0800	1200	1600	2000	NMA
San Juan	R	0200	0600	1000	1400	1800	2200	NMR
New Orleans	G	0300	0700	1100	1500	1900	2300	NMG
Pt. Reyes	C	0000	0400	0800	1200	1600	2000	NMC
Cambria	Q	0045	0445	0845	1245	1645	2045	NMQ
Astoria, OR	W	0130	0530	0930	1330	1730	2130	NMW
Kodiak	J	0300	0700	1100	1500	1900	2300	NOJ
Kodiak	X	0340	0740	1140	1540	1940	2340	
Honolulu	O	0040	0440	0840	1240	1640	2040	NMO
Guam	V	0100						NRV

4.3 Canadian Navtex Stations And Broadcast Schedule

Canadian Stations	Identifier	Broadcast Schedule					
Iqaluit	T	0310	0710	1110	1510	1910	2310
Labrador	X	0250	0750	1150	1660	1950	2350
Riviere-au-Renard	C	0020	0420	0820	1220	1620	2020
Riviere-au-Renard	D	0035	0435	0835	1235	1635	2035
St. Johns	O	0220	0620	1020	1420	1820	2220
Sydney, Nova Scotia	Q	0240	0640	1040	1440	1840	2240
Sydney, Nova Scotia	J	0255	0655	1055	1455	1855	2255
Thunder Bay	P	0230	0630	1030	1430	1830	2230
Warton	H	0110	0510	0910	1310	1710	2110
Yammouth	U	0320	0720	1120	1520	1920	2320
Yammouth	V	0335	0735	1135	1535	1935	2335

4.4 Worldwide Navtex Stations

This listing was obtained from the IMO. At the time of the last update in 2002, some station codes and/or ranges were not yet available but may very well be up and running in 2005. Supplemental stations were obtained from Eberhard Backeshoff's (JVComm 32) listing.

CODE	LOCATION	COUNTRY	RANGE
Atlantic - North East			
T	Oostende	Belgium	55
M	Oostende/Thames	Belgium	150
U	Tallinn	Estonia	250
A	Corsen	France	300
K	Niton	France	270
G	Cullercoats	Great Britain	270
E & S	Niton	Great Britain	270
K	Niton/Channel	Great Britain	
O	Portpatrick	Great Britain	270
X	Reykjavik - Greenland	Iceland	550
R	Reykjavik Radio	Iceland	550
Q	Malin Head	Ireland	400
W	Valentia	Ireland	400
M	Casablanca	Morocco	180
P	Netherlands CG	Netherlands	110
B	Bodo Radio	Norway	450

CODE	LOCATION	COUNTRY	RANGE
Mediterranean Basin & Surrounds			
J	Varna	Bulgaria	350
Q	Split	Croatia	85
M	Troodos	Cyprus	200
N	Alexandria	Egypt	350
L	Kosseir	Egypt	400
X	Serapeum	Egypt	200
W	Toulon	France	250
H	Iraklion	Greece	280
K	Kerkyra	Greece	280
L	Limnos	Greece	280
F	Bandar Abbas	Iran	300
A	Bushehr	Iran	300
P	Haifa	Israel	200
S	Augusta	Italy	320
T	Cagliari	Italy	320
R	Roma	Italy	320

N	Oerlandet	Norway	450
L	Rogaland	Norway	450
V	Vardoe	Norway	450
F	Azores, Horta	Portugal	640
P	Madeira	Portugal	
R	Monsanto	Portugal	530
F	Arkhangelsk	Russia	
C	Murmansk	Russia	
D	Coruna	Spain	400
I	Las Palmas	Spain	400
G	Tarifa	Spain	400
H	Bjuroklub/Stockholm	Sweden	300
J	Gislovshammer	Sweden	300
D	Grimeton	Sweden	300
U	Stockholm	Sweden	
Atlantic - North West			
B	Bermuda	Bermuda	280
T	Iqaluit	Canada	
X	Labrador	Canada	300
W	Montreal	Canada	
C	Riviere-au-Renard	Canada	300
D	Riviere-au-Renard	Canada	300
O	St Johns	Canada	300
J	Sydney, Nova Scotia	Canada	300
Q	Sydney, Nova Scotia	Canada	300
P	Thunder Bay	Canada	300
H	Warton (Great Lakes)	Canada	300
U	Yarmouth	Canada	300
V	Yarmouth	Canada	300
H	Curacao (Netherlands)	Curacao	400
W	Kook Island	Greenland W	400
	Cozumel	Mexico	250
	Veracruz	Mexico	250
F	Boston	USA	200
Q	Miami	USA	240
G	New Orleans	USA	200
N	Portsmouth	USA	280
R	San Juan, P.R.	USA	200
E	Savannah	USA	200
Atlantic - South			
P	Bahia Blanca	Argentina	280
R	Buenos Aires	Argentina	560
O	Comodoro Rivadavia	Argentina	280
Q	Mar del Plata	Argentina	280

U	Trieste/Bari	Italy	320
O	Malta	Malta	400
W	Astrakhan (Caspian S)	Russia	250
A	Novorossiyyk	Russia	300
G	Tarifa	Spain	
X	Valencia/Mallorca	Spain	300
F	Antalya	Turkey	300
D	Istanbul	Turkey	300
I	Izmir	Turkey	300
E	Samsun	Turkey	300
B	Mariupol	Ukraine	280
C	Odessa	Ukraine	280
Pacific Basin – North East			
D	Prince Rupert	Canada	300
H	Tofino	Canada	300
Q	La Paz	Mexico	
O	Manzanillo	Mexico	
J	Salina Cruz	Mexico	
	Anderma	Russia	
F	Arkhangelsk	Russia	300
E	Beringovskii	Russia	
	Dickson	Russia	
B	Kholmsk	Russia	300
D	Megaden	Russia	
C	Murmansk	Russia	300
C	Petropavlovsk	Russia	300
	Tuksi	Russia	
A	Vladivostok	Russia	
	Yanrangay	Russia	
	Adak	USA	
	Astoria	USA	216
	Cambria	USA	350
	Honolulu	USA	350
X	Kodiak	USA	200
W	San Francisco	USA	350
Indian Ocean & Surrounds			
B	Hamala	Bahrain	270
X	Serapeum	ET	390
G	Bombay	India	378
P	Madras	India	
T	Miri	Malaysia	350
U	Penang	Malaysia	350
S	Sandakan	Malaysia	350
C	Mauritius Radio	Mauritius	
B	Walvis Bay	Namibia	

N	Rio Gallegos	Argentina	280
M	Ushaia	Argentina	280
		Argentina	
	Sao Vincente	Cape Verde	
	Nouadhibou	Mauritania	
C	Cape Town	South Africa	500
F	La Paloma	Urguay	280
Pacific Basin - West			
R	Dalian	China	250
O	Fuzhou	China	251
N	Guangzhou	China	250
L	Hong Kong	China	
Q	Shanghai	China	250
B	Ambon	Indonesia	300
E	Jakarta	Indonesia	300
A	Jayapura	Indonesia	300
D	Makassar	Indonesia	300
K	Kushiro	Japan	400
H	Moji	Japan	400
G	Naha	Japan	400
J	Otaru	Japan	400
I	Yokohama	Japan	400
V	Chukpyon	Korea	200
W	Pyonsan	Korea	200
K	Davao	Philippines	320
J	Manila	Philippines	320
I	Puerto Princess	Philippines	320
C	Jurong	Singapore	400
V	Guam	USA	100
P	Danang	Vietnam	
W	Haiphong	Vietnam	400
X	Ho Chi Minh City	Vietnam	400

M	Muscat	Oman	
P	Karachi	Pakistan	
G	Damman	Saudi Arabia	400
H	Jeddah	Saudi Arabia	400
O	Durban	South Africa	
I	Port Elizabeth	South Africa	
F	Bangkok Radio	Thailand	200
Pacific Basin – South East			
A	Antofagasta	Chile	300
H	Antofagasta	Chile	300
F	Isle de Pascua	Chile	300
M	Isle de Pascua	Chile	300
D	Puerto Montt	Chile	300
K	Puerto Montt	Chile	300
E	Punta Arenas	Chile	300
L	Punta Arenas	Chile	300
C	Talcahuano	Chile	300
J	Talcahuano	Chile	300
B	Valparaiso	Chile	300
I	Valparaiso	Chile	300
U	Callao	Peru	200
W	Mollendo	Peru	200
S	Paita	Peru	200

5 WX Websites

5.1 Internet Weather Sites

Weather is available from many websites and with varying degrees of technology. The following is a listing of some of the sites. If anyone has a favorite they would like to add, please let me know.

Canada	http://weather.ec.gc.ca
Euro Weather	http://www.eurometeo.com/english/home
France - Meteorology	http://www.mercator.com.fr
German	http://www.wetterzentrale.de/
Germany, Univ. Cologne - Meteorology	http://www.uni-koeln.de/math-nat-fak/geomet/meteo
Greece, Univ. Athens	http://forecast.uoa.gr/ramsindx.html
Greece, Univ. Athens	http://www.poseidon.ncmr.gr/weather_forecast.html
Netherlands - Dutch Language	http://www.knmi.nl
Ocean Weather- Anywhere	http://www.oceanweather.com/data/index.html
Raymarine - grib Files	http://www.raytechonline.com
South Africa	www.cruisingconnections.co.za
South Africa, Univ. Cape Town	http://www.uct.ac.za
South African Weather Service	http://www.weathersa.co.za
Spain, Univ. of Barcelona	http://www.infomet.fcr.es
Turkey	http://meteor.gov.tr/indexmaster_eng.htm
UK - Met Office	http://www.meto.gov.uk
UK, Univ. Dundee - Satellite	http://www.sat.dundee.ac.uk
US	http://www.weather.com
US - Florida Sate Univ.	http://www.met.fsu.edu
US - National Data Buoy Center	http://www.ndbc.noaa.gov
US - National Ocean Prediction Center	http://www.opc.ncep.noaa.gov
US - NOAA	http://www.noaa.gov
US - NWS Marine Product Dissemination Information	http://www.nws.noaa.gov/om/marine/home.htm
US - NWS Marine Radio Facsimile Broadcasts	http://www.nws.noaa.gov/om/marine/rfax.pdf
US - Pacific, North	http://www.opc.ncep.noaa.gov/shtml/P_HighSeas.shtml
US - SSB WX Fax Broadcasts - North Atlantic	http://www.opc.ncep.noaa.gov/shtml/A_HighSeas.shtml
US - SSB WX Fax Broadcasts - Pacific	http://www.opc.ncep.noaa.gov/shtml/P_HighSeas.shtml
US - The NWS Marine & Costal Service Publications:	http://www.nws.noaa.gov/om/marine/pub.htm
US - Univ. Albany - North America	http://www.atmos.albany.edu
US - Univ. Miami	http://www.rsmas.miami.edu
US - Univ. Miami - Ocean Currents	http://oceancurrents.rsmas.miami.edu/
US - Univ. Wisconsin	http://cimss.ssec.wisc.edu/tropic/tropic.html
US Navy	http://152.80.49.204/
US Navy	http://www.fnmoc.navy.mil/public/
US Navy - Meteorology & Oceanography	https://www.nlmoc.navy.mil
Wind Guru – Almost Anywhere	http://www.windguru.com

Note: Underline dashes in some addresses.

6 SailMail

SailMail is popular when GPRS is out of range or not available. CCA member Stan Honey and his wife are the principles in this venture. The software was developed by CCA member Jim Corenman.

The SailMail Association is a non-profit association of yacht owners that operates and maintains a network of private coast stations in the Maritime Mobile Radio Service. The Association provides radioprinter (e.g. Internet email) communications for its members on a cooperative basis, in order to meet the private business and operational needs of the members' yachts.

The SailMail Association provides worldwide coverage. Every SailMail station provides service in Pactor, Pactor-II and Pactor-III. SailMail's stations and their frequencies are as follows:

SailMail Station Locations

Location	Call sign	Frequencies in kHz
Palo Alto, California, USA	WRD719	5881.4, 7971.4, 10343, 13971, 13986, 18624
San Diego California, USA	WQAB964	2759, 5740, 7380, 10206, 13874, 18390, 23060
San Luis Obispo, California, USA	WHV861	2800.4, 5861.4, 8020.4, 10320, 10982, 13915, 13946, 18296
Friday Harbor, Washington, USA	WHV382	2794.4, 5830, 7995, 10315, 13940, 18277
Honolulu, Hawaii, USA	KUZ533	2701.4, 5836, 7957.4, 10325, 13930, 18264
Rockhill, South Carolina, USA (three transceivers)	KZN508	2656.4, 5876.4, 7961.4, 7981.4, 10331, 13998, 18618, 18630
Lunenburg, Nova Scotia, Canada	XJN714	4805, 7822, 10523, 13937, 14436.2, 18234, 21866
Firefly, NSW, Australia (five transceivers)	VZX	2824, 4162, 5085.8, 6357, 8442, 10476.2, 12680, 13513.8, 14436.2, 16908, 18594, 22649
Maputo, Mozambique, Africa	RC01	5212, 7957.4, 10335, 12689*, 13930, 13992*, 14588*, 18264, 18630*, 22212*, 27777*, 27888 (* these frequencies use a directional antenna pointed NE into the Indian Ocean)
Brunei Bay, Brunei Darussalam (two transceivers)	V8V2222	5212, 6305, 8399, 10323, 13426, 14987, 16786, 18893, 20373, 22352
Brugge, Belgium (four transceivers)	OSY	6330.5, 8422, 12580.5, 16684.5
Corpus Christi, Texas, USA	WPTG385	2720.8, 5859.4, 7941.4, 10361.4, 13906.4, 13926.4, 18376.4, 22881.4
South Daytona, Florida, USA	WPUC469	2807.8, 5897.4, 8009.4, 10366.4, 13921.4, 18381.4, 22961.4

Chiriqui, Panama	HPPM1	2650, 4075, 5735, 8185, 10450, 13880, 18240, 18440, 18460, 23050
Los Lagos, Chile	CEV773	2828.5, 5266.5, 10620, 10623, 13861.5, 13875
Abu Tig Marina, El Gouna Egypt	SSM678	2824.5, 4162.5, 6239.5, 8325.5, 12394.5, 16598.5, 18866.5, 22645.5

For more information, see the SailMail website at: www.sailmail.com

7 DSC (VHF) Installation Schedule For The USA

2003	2004	2005	2006
Atlantic City	Astoria	Boston	
Eastern Shore	Baltimore	Buffalo	Alaska
Mobile	Corpus Christi	Cape Hatteras	Caribbean
Port Angeles	Galveston	Charleston	Guam
Seattle	Gulf Coast	Detroit	Hawaii
St. Petersburg	Hampton Roads	Fort Macon	Milwaukee
	Key West	Grand Haven	Sault Ste. Marie
	Long Island Sound	Great Lakes	Western Rivers
	Mayport	Humboldt Bay	
	Miami	Los Angeles	
	Moriches	Long Beach	
	New Orleans	Portland	
	New York	San Diego	
	North Bend	San Francisco	
	Philadelphia	Southwest Harbor	
	Portland	Woods Hole	
	South West		

8 Conversion Tables

8.1 Altitude / Atmospheric Pressure and Pressure Conversion

Some barometers read in inches of mercury (Hg) rather than millibars used on synoptic weather charts. The tables below provide the conversion. In addition, some weather fax broadcasts include an analysis and forecast for upper altitudes. The 500 mb weather fax is useful for WX analysis.

ALTITUDE / ATMOSPHERIC PRESSURE

PRESSURE CONVERSION

Altitude x ft	mb (hPa)	PSI	Inches Hg
Sea Level	1013.25	14.696	29.920
5,000	850		
10,000	700		
18,000	500		
30,000	300		
39,000	200		

1 mb = 0.029536" Hg

mb (hPa)	Inches Hg	Inches Hg	mb (hPa)
1040	30.72	31.0	1050
1035	30.57	30.9	1046
1030	30.42	30.8	1043
1025	30.27	30.7	1039
1020	30.13	30.6	1036
1019	30.10	30.5	1033
1018	30.07	30.4	1029
1017	30.04	30.3	1026
1016	30.01	30.2	1022
1015	29.98	30.1	1019
1014	29.95	30.0	1016
1013	29.92	29.9	1012
1012	29.89	29.8	1009
1011	29.86	29.7	1006
1010	29.83	29.6	1002
1009	29.80	29.5	999
1008	29.77	29.4	995
1007	29.74	29.3	992
1006	29.71	29.2	989
1005	29.68	29.1	985
1000	29.54	29.0	982
995	29.39	28.9	978
990	29.24	28.8	975
985	29.09	28.7	972
980	28.95	28.6	968
975	28.80	28.5	965
970	28.65	28.4	962
965	28.50	28.3	958
960	28.35	28.2	955
		28.1	951
		28.0	948

8.2 Latitude / Longitude Seconds To Minutes

SECONDS	MINUTES	SECONDS	MINUTES	SECONDS	MINUTES
1	0.02	21	0.35	41	0.68
2	0.03	22	0.37	42	0.70
3	0.05	23	0.38	43	0.72
4	0.07	24	0.40	44	0.73
5	0.08	25	0.42	45	0.75
6	0.10	26	0.43	46	0.77
7	0.12	27	0.45	47	0.78
8	0.13	28	0.47	48	0.80
9	0.15	29	0.48	49	0.82
10	0.17	30	0.50	50	0.83
11	0.18	31	0.52	51	0.85
12	0.20	32	0.53	52	0.87
13	0.22	33	0.55	53	0.88
14	0.23	34	0.57	54	0.90
15	0.25	35	0.58	55	0.92
16	0.27	36	0.60	56	0.93
17	0.28	37	0.62	57	0.95
18	0.30	38	0.63	58	0.97
19	0.32	39	0.65	59	0.98
20	0.33	40	0.67	60	1.00

8.3 Meters / Feet / Fathoms

METERS	FEET	FATHOMS
1	3.3	0.5
2	6.6	1.1
3	9.8	1.6
4	13.1	2.2
5	16.4	2.7
6	19.7	3.3
7	23.0	3.8
8	26.2	4.4
9	29.5	4.9
10	32.8	5.5
11	36.1	6.0
12	39.4	6.6
13	42.7	7.1
14	45.9	7.7
15	49.2	8.2
16	52.5	8.7
17	55.8	9.3
18	59.1	9.8
19	62.3	10.4
20	65.6	10.9
30	98.4	16.4
40	131.2	21.9
50	164.0	27.3
60	196.9	32.8
70	229.7	38.3
80	262.5	43.7
90	295.3	49.2
100	328.1	54.7

FEET	METERS	FATHOMS
1	0.3	0.2
2	0.6	0.3
3	0.9	0.5
4	1.2	0.7
5	1.5	0.8
6	1.8	1.0
7	2.1	1.2
8	2.4	1.3
9	2.7	1.5
10	3.0	1.7
11	3.4	1.8
12	3.7	2.0
13	4.0	2.2
14	4.3	2.3
15	4.6	2.5
16	4.9	2.7
17	5.2	2.8
18	5.5	3.0
19	5.8	3.2
20	6.1	3.3
30	9.1	5.0
40	12.2	6.7
50	15.2	8.3
60	18.3	10.0
70	21.3	11.7
80	24.4	13.3
90	27.4	15.0
100	30.5	16.7

8.4 Temperature Conversion – Celsius to Fahrenheit

Probably the most often used daily measurement is that of temperature. Celsius or Centigrade is the way it is away from home base.

°C	°F
45	113
44	111
43	109
42	108
41	106
40	104
39	102
38	100
37	99
36	97
35	95
34	93
33	91
32	90
31	88

°C	°F
30	86
29	84
28	82
27	81
26	79
25	77
24	75
23	73
22	72
21	70
20	68
19	66
18	64
17	63
16	61

°C	°F
15	59
14	57
13	55
12	54
11	52
10	50
9	48
8	46
7	45
6	43
5	41
4	39
3	37
2	36
1	34
0	32

$$C = 5/9 (F-32)$$

$$F = 9/5C + 32$$

8.5 Time To Travel ½ Mile and 1 Mile

There are occasions when onboard electronics fail. Alternately, the US Air Force has shut down GPS on occasion, sometimes pre-announced and sometimes not. This seems to happen mostly at night and in a fog while closing on land. Knowing how far a yacht will travel at a given speed (engine RPM) can assist the navigator and might help calm the First Mate.

KNOTS	1/2 MILE		1 MILE	
	MIN	SEC	MIN	SEC
1.0	30	0	60	0
1.5	20	0	40	0
2.0	15	0	30	0
2.5	12	0	24	0
3.0	10	0	20	0
3.5	8	34	17	8
4.0	7	30	15	0
4.5	6	40	13	20
5.0	6	0	12	0
5.5	5	27	10	55
6.0	5	0	10	0
6.5	4	37	9	14
7.0	4	17	8	34
7.5	4	0	8	0
8.0	3	45	7	30
8.5	3	32	7	4
9.0	3	20	6	40
9.5	3	10	6	19
10.0	3	0	6	0

8.6 Volume Conversion To Metric

GAL / LITERS

GAL	LITERS
1	3.785
2	7.6
3	11.4
4	15.1
5	18.9
6	22.7
7	26.5
8	30.3
9	34.1
10	37.9
25	94.6
50	189.3
100	378.5

LITERS	GAL
1	0.264
2	0.5
3	0.8
4	1.1
5	1.3
6	1.6
7	1.8
8	2.1
9	2.4
10	2.6
25	6.6
50	13.2
100	26.4

OZ / MILLI LITERS

Oz	mL	mL	Oz
1	29.6	1	0.034
2	59.1	2	0.07
3	88.7	3	0.10
4	118.3	4	0.14
5	147.9	5	0.17
6	177.4	6	0.20
7	207.0	7	0.24
8	236.6	8	0.27
9	266.2	9	0.30
10	295.7	10	0.34
25	739.3	25	0.8
50	1478.6	50	1.7
100	2957.3	100	3.382

8.7 Wind Speed

Beaufort wind scales are used to define wind velocity throughout much of the world, particularly Europe.

8.7.1 Beaufort Scale

Beaufort Number	Mean Velocity Knots	Description	Deep Sea Condition	Wave Height Feet
0	< 1	Calm	Mirror Flat	---
1	1 - 3	Light	Ripples	0.25
2	4 - 6	Light Breeze	Small Glassy Wavelets	.5 - 1
3	7 - 10	Gentle Breeze	Large Wavelets, Scattered White Caps	2 - 3
4	11 - 16	Mod. Breeze	Small Waves, Frequent White Caps	3.5 - 5
5	17 - 21	Fresh Breeze	Long Waves Form, Many White Caps	6 - 8.5
6	22 - 27	Strong Breeze	Large Waves, White Foam Crests	9.5 - 13
7	28 - 33	Near Gale	Sea Heaps, Foam Streaks Start	13.5 - 19
8	34 - 40	Gale	Moderately High Waves, Foam In Streaks	18 - 25
9	41 - 47	Strong Gale	High Waves, Foam Streaks, Crests Topple	23 - 32
10	48 - 55	Storm	Very High Waves, Overhanging Crests, Sea White	29 - 41
11	56 - 63	Violent Storm	Long Foam Patches, Poor Visibility	37 - 52
12	> 63	Hurricane	Sea White With Foam & Spray, Bad Visibility	45 +

8.7.2 Beaufort, Meters per Second, Kilometers per Hour and Knots:

Some voice weather broadcast refer to wind speed in meters per second or kilometers per hour. The following is a conversion table:

Note: 1 nautical mile = 6076.12 ft and 1 kilometer = 3280.83 ft.

Beaufort	Knots
0	< 1
1	1 – 3
2	4 – 6
3	7 – 10
4	11 – 16
5	17 – 21
6	22 – 27
7	28 – 33
8	34 – 40
9	41 – 47
10	48 – 55
11	56 – 63
12	> 63

Meters Per Sec	Knots
1	1.9438
2	3.9
3	5.8
4	7.8
5	9.7
6	11.7
7	81.6
8	15.6
9	17.5
10	19.4
15	29.2
20	38.9
30	58.3
40	77.8
50	97.2

Kilometers Per Hour	Knots
1	0.540
2	1.1
3	1.6
4	2.2
5	2.7
10	5.4
15	8.1
20	10.8
25	13.5
30	16.2
35	18.9
40	21.6
45	24.3
50	27.0
55	29.7
60	32.4
65	35.1
70	37.8
75	40.5
80	43.2

Knots	Meters Per Sec	Kilometers Per Hour
1	0.5144	1.852
2	1	3.7
3	1.5	5.6
4	2.1	7.4
5	2.6	9.3
6	3.1	11.1
7	3.6	13
8	4.1	14.8
9	4.6	16.7
10	5.1	18.5
15	7.7	27.8
20	10.3	37
30	15.4	55.6
40	20.6	74.1
50	25.7	92.6

8.8 Conversion Factors

LENGTH / DISTANCE

	Inches	Feet	Millimeters	Centimeters	Yard	Meters	Fathom	S. Mile	N.Mile
1 Inch	=		25.4	2.54					
1 Meter	=	39.37	1000	100	1.09		0.05		
1 Yard	=	36				0.91	0.5		
1 Fathom	=				2	1.83			
1 Rod	=				5.5	5.03	2.75		
1 Cable (British) *	=				~240	~183	~100		~0.1
1 Kilometer	=		3,280.84		0.54	1,000.00	546.81	0.62	0.54
1 Statute Mile	=		5,280.00		1,760.00	1,609.34	880		0.87
1 Nautical Mile	=		6,076.12		2,025.37	1,852.00	1,012.69	1.15	

* Note: ~ means approximately

SPEED

Rate = Distance / Time

	Feet/sec	Meters/sec	Kilometers per hr	Statute/hr	Knots
1 ft/min	= 0.02				
100 ft/min	= 1.67	0.51	1.83	1.14	0.99
1 meter per second	= 3.28				
1 meter per minute	= 196.85		11.81		
6 knots	= 10.13				
30 MPH (statute)	= 44				
30 knots	= 50.63				
Sound at sea level	= 1116.99	340.46	1,225.65	761.58	661.8
Sound in 3.5% salt water	= 4945.37	1,507.35	5426.46	3,371.84	2,930.05

VOLUME

	Liters	US Gallons	Imperial Gallons
1 Gallon (US)	= 3.79		0.83
Imperial Gallon	= 4.55	1.2	
1 Drum	= 158.97	42	34.97
1 Barrel	= 208.18	55	45.79

MASS

	Grains	Grams	Ounces	Pound	Kilogram	Short Ton	Long Ton	Metric Ton
1 ounce	= 437.5	28.3495		0.0625	0.0283			
1 pound	= 7437.5	453.5924	16		0.4536			
1 kilogram	=	1000	35.2734	2.2046			0.8929	0.9072
1 short ton	=			2000	907.1847			
1 long ton	=			2240	1016.0469	1.12		1.016
1 metric ton	=			2204.6226	1000	1.1023	0.9842	
1 cubic ft fresh water	=			62.5	28.3495			
1 cubic ft salt water	=			64				
1 gallon fresh water	=			8.33				

MATHEMATICS

			Degrees	Radians
π (pi)	=	3.14159		
Napierian Log Base	=	2.71828		
Common Log Base	=	0.43429		
1 Radian	=		57.3	
1 Circle	=		360°	2π

METEROLOGY

Standard Atmospheric Pressure at Sea Level

	mille bars	mm - Hg	Inches - Hg	Feet - H2O	PSI	Kg / c ²
	1013.25	760	29.92	33.9	14.7	1.03

TEMPERATURE

		° C	° F
Boiling	=	100	212
Freezing	=	0	32
Absolute zero	=	-273.15	-459.6

9 VOA and BBC Broadcasts

The following VOA schedule was downloaded 22 April 06 and is effective from 26 March – October 29 2006. Service to Europe and the Middle East has been significantly curtailed. Considering the elegance of some of the music broadcast, this reduction may be an improvement.

9.1 Voice Of America

Europe, Middle East and Africa			
Time - UTC			
1100 - 1200	15205		
1500 - 1700	15195	15445	
2200 - 2230	1593		

Far East Asia, South Asia and Oceania						
0100 - 0200	9885	11705	11725			
1100 - 1130	1575					
1200 - 1230	1170	6160	9645	9760	11705	
1230 - 1300	6160	9645	9760	11705		
1300 - 1400	9645	9760				
1400 - 1500	4930	6080	7125	9760	13795	15185
	15490	15580	17685	17720	17730	
1500 - 1600	4930	7125	12150	13735	15105	
2200 - 2400	7215	15185	15290	17740		
2230 - 2400	1575					

English - Special						
0000 - 0030	1593					
0030 - 0100	1575	1593	9715	9780	15185	
	15205	15290	15560	17740	17820	
1300 - 0200	7405	13740				
1500 - 1530	6160	9590	9760	12040	15550	
1500 - 1530	1575					
1530 - 1600	1575	6160	9590	9760	12040	15550
1600 - 1700	12080	13600	17895			
1900 - 2000	6040	9760				
2230 - 2330	1593	9570	13755	15145		
2330 - 2400	1593	7260	9570	13725	13755	15145

For the complete schedule, go to www.voanews.com/english/about/Frecuenciasatoz_a.cfm

9.2 BBC World Service:

The following schedule was downloaded 1 May 2006. The schedule is effective until October 29 2006 (we think).

Frequencies – West And South West Europe:

0200 - 2300	1323	
0300 - 0500	6195	
0300 - 0600	9410	
0500 - 0600	12095	
1600 - 1800	9410	12095
1700 - 1800	6195	

Frequencies – Central And South East Europe:

0200 - 0230	1413	
0200 - 0500	11760	
0200 - 2300	1323	
0300 - 0400	1413	
0600 - 0730	15575	
0700 - 1400	11760	
0730 - 0900	15575*	
0900 - 1500	15575	
1300 - 1400	1314	1413
1600 - 1800	12095+	
1800 - 1830	1413	
1830 - 2000	12045	
1900 - 2100	1413	
* Sat - Sun		
+ Europe Programs		

For the complete schedule, go to: www.bbc.co.uk/worldservice/schedules/internet/800/radio_frequencies

10 US Zone Time Difference From UTC

Standard Time							
UTC difference	Atlantic	Eastern	Central	Mountain	Pacific	Alaska	Hawaii
	-4	-5	-6	-7	-8	-9	-10

Subtract one hour for Daylight Saving Time (DST).

Daylight Saving Time in the US begins at 2 a.m. on the first Sunday of April and reverts to Standard Time at 2 a.m. on the last Sunday of October. In the US, each time zone switches at a different time. DST is not observed in American Samoa, Guam, Hawaii, Puerto Rico, USVI, Arizona and parts of Indiana

Congress has voted to change the DST duration beginning in 2007. DST will then start on the second Sunday of March at 2 a.m. and end on the first Sunday of November!

In the European Union, Summer Time begins and ends at 1 a.m. Universal Time (GMT). It starts on the last Sunday in **March** and ends the last Sunday in October. In the EU, all time zones change at the same moment.

11 Ham Voice Frequency Bands

Voice frequencies on the US Amateur bands below 30000 MHz can be received by anyone, but require a Ham License to transmit. The exception is a true emergency when anything goes.

Note that LSB is used for Amateur frequencies below 7300 kHz.

Meters	Novice/Tech Plus	General	Advanced	Extra/Amateur Extra	Mode
	kHz	kHz	kHz	kHz	
80	-----	3850 - 4000	3775 - 4000	3750 - 4000	LSB
40	-----	7225 - 7300	7150 - 7300	7150 - 7300	LSB
20	-----	14225 - 14350	14175 - 14350	14150 - 14360	USB
17	-----	18110 - 18188	18110 - 18188	18110 - 18188	USB
15	-----	21300 - 21450	21225 - 21450	21200 - 21450	USB
12	-----	24930 - 24990	24930 - 24990	24930 - 24990	USB
10	28300 - 28500	28300 - 29700	28300 - 29700	28300 - 29700	USB

The FCC revised Amateur Operator Licenses into three classes on April 15, 2000. The new classes are Technician, Technician with Morse Code Credit, General and Amateur Extra (yes, that sure looks like four). The Novice and Advanced were discontinued although those classes may continue to be renewed and retain frequency privileges.

Technician with Morse Code Credit is also called Technician Plus. Technician without Morse Code Credit have no privileges below 50 MHz.

Morse Code requirements were also changed. Technician does not require code. The rest, Technician Plus, General and Amateur Extra all require passing a code test at 5 wpm. The Amateur Extra class enjoy all amateur privileges.