Government of Canada
Department of Communications

Telecommunication
Regulatory Service

CANADA / U.S. AUTHORIZED CO-ORDINATION AGENCIES AND PROCEDURES FOR THE CO-ORDINATION OF RADIO FREQUENCIES ABOVE 30 MHZ

ISSUED BY : DOS-F2

APRIL 1978

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PREFACE

This Manual has been prepared by Headquarters, Frequency Assignment Section Above 30 MHz (DOS-F2).

This Manual is intended to provide information for quick and easy reference in determining under which Agency and Arrangement frequencies within the bands set forth in the "Index to the Technical Annex" indicated in the following pages should be co-ordinated between Canada and the United States in the Canada/U.S. co-ordination zones.

The contents of this Manual for the most part were extracted from the Canada/U.S. Co-ordination Agreement relating to the co-ordination and use of radio frequencies above 30 MHz.

The contents of this Manual were accurate as of April 1, 1978.

INDEX TO THE TECHNICAL ANNEX

LISTING

Item	Frequency BANDS (MHZ)	Authorized Coordination Agencies or Channels U.S.	CANADA	COORDINATION ARRANGEMENTS		REMARKS
1.	30.56 - 31.98	FCC	DOC	Arrangement	A	
2.	32.00 - 33.00	IRAC	"	"	D	
3.	33.02 - 33.98	FCC	"	"	A	
4.	34.00 - 35.00	IRAC	"	"	D	
5.	35.02 - 35.98	FCC	"	"	A	
6.	36.00 - 37.00	IRAC	"	"	D	
7.	37.02 - 37.98	FCC	"	"	A	
8.	38.00 - 39.00	IRAC	"	"	D	
9.	39.02 - 39.98	FCC	"	"	A	
10.	40.00 - 42.00	IRAC	"	"	D	
11.	42.02 - 46.58	FCC	"	"	A	
12.	46.60 - 47.00	IRAC	"	"	D	
13.	47.02 - 49.58	FCC	"	"	A	
14.	49.60 - 49.98	IRAC	"	"	D	
15.	72.02 - 72.98	FCC	"	"	A	
16.	74.60 - 75.40	FAA	DOT	"	B	Coordination not required at this time.
17.	75.42 - 75.98	FCC	DOC	"	A	
18.	108.0 - 117.975	FAA	DOT	"	B	NOTE 5
19.	117.975 - 121.975	FAA	DOT	"	B	NOTE 5
20.	121.975 - 123.075	FCC	DOC	"	B	Coordination not required at this time.
21.	123.075 - 123.575	FCC	DOC	"	B	Coordination not required at this time.
22.	123.575 - 128.825	FAA	DOT	"	B	NOTE 5
23.	128.825 - 132.025	FCC	DOC	"	B	NOTE 6
24.	132.025 - 135.0	FAA	DOT	"	B	NOTE 5
AA.	135.0 - 136.0	FAA	DOC	"	B	NOTE 3
25.	138.015 - 143.985	JCS**	CDS*	"	C	
26.	148.015 - 149.890	IRAC	DOC	"	D	NOTE 7
27.	148.015 - 149.890	JCS	CDS	"	C	NOTE 8
28.	150.065 - 150.785	IRAC	DOC	"	D	NOTE 7
29.	150.065 - 150.785	JCS	CDS	"	C	NOTE 8
30.	150.815 - 162.025	FCC	DOC	"	A	NOTE 9
31.	162.030 - 173.970	IRAC	DOC	"	D	
32.	216.0 - 225.0	JCS	CDS	"	C	
33.	328.6 - 335.4	FAA	DOT	"	B	NOTE 5
BB.	410.0125- 419.9875	IRAC	DOC	"	D	NOTE 3., 10,
34.	420.0 - 450.0	JCS	CDS	"	C	
35.	450.0125- 469.9875	FCC	DOC	"	A	

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Item	Frequency BANDS (MHZ)		Authorized Coordination Agencies or Channels U.S.	CANADA	COORDINATION ARRANGEMENTS		REMARKS
36.	890.0	- 942.0	JCS	CDS	Arrangement	C	
37.	942.0	- 960.0	FCC	DOC	"	A	
38.	960.0	-1215.0	FAA	DOT	"	B	NOTE 5
39.	1215.0	-1300.0	JCS	CDS	"	C	
40.	1300.0	-1350.0	FAA	DOC	"	C	
CC.	1350.0	-1400.0	JCS	CDS	"	C	NOTE 3
41.	1535.0	-1540.0					Coordination not required at this time.
42.	1540.0	-1660.0***	IRAC	DOC	"	B	
43.	1710.0	-1850.0	IRAC	"	"	D	
44.	1850.0	-2110.0	FCC	"	"	A	
45.	2110.0	-2120.0	IRAC	"	"	D	
DD.	2120.0	-2200.0	FCC	"	"	A	NOTE 3
46.	2200.0	-2290.0	IRAC	"	"	D	
47.	2300.0	-2450.0	JCS	CDS	"	C	
48.	2450.0	-2690.0	FCC	DOC	"	A	
49.	2700.0	-2900.0	FAA	"	"	C	
50.	2900.0	-3100.0	IRAC	"	"	C	
51.	3100.0	-3700.0	JCS	CDS	"	C	
52.	3700.0	-4200.0	FCC	DOC	"	A	
53.	4200.0	-4400.0***	IRAC	"	"	B	
54.	4400.0	-4990.0	IRAC	"	"	D	
55.	5000.0	-5250.0***	IRAC	"	"	B	
56.	5250.0	-5460.0	JCS	CDS	"	C	
57.	5460.0	-5650.0	IRAC	DOC	"	C	
EE.	5650.0	-5925.0	JCS	CDS	"	C	NOTE 3
58.	5925.0	-7125.0	FCC	DOC	"	A	
59.	7125.0	-8400.0	IRAC	"	"	D	
60.	8400.0	-8500.0					Coordination not required at this time.
61.	8500.0	-9000.0	JCS	CDS	"	C	
62.	9000.0	-9200.0	FAA	DOC	"	C	
FF.	9200.0	-9300.0	JCS	CDS	"	C	
63.	9300.0	-9500.0	IRAC	DOC	"	C	
GG.	9500.0	-10500.0	JCS	CDS	"	C	NOTE 3
	GHZ						
64.	10.55	- 10.68	FCC	DOC	"	A	
65.	10.70	- 13.25	FCC	"	"	A	
66.	13.25	- 13.40					Coordination not required at this time.

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LISTING

Item	Frequency BANDS (GHZ)	Authorized Coordination Agencies or Channels U.S.	CANADA	COORDINATION ARRANGEMENTS	REMARKS
67.	13.40 - 14.00	JCS	CDS	Arrangement C	
68.	14.00 - 15.40				Coordination not required at this time.
69.	15.40 - 15.70***	IRAC	DOC	" B	
70.	15.70 - 17.70	JCS	CDS	" C	
71.	17.70 - 23.00				Coordination not required at this time.
72.	23.00 - 24.25	JCS	CDS	" C	
73.	24.25 - 33.40				Coordination not required at this time.
74.	33.40 - 36.00	JCS	CDS	" C	
75.	36.0 and above				Coordination not required at this time.

* CDS - Chief of Defence Staff (CANADA) - Authorized Coordination Channel only.

** JCS - Joint Chiefs of Staff (U.S.A.) - " " " "

*** - Coordination not required at this time except for applications involving the use of space techniques.

NOTES REFERRING TO THE INDEX TO THE TECHNICAL ANNEX

NOTE 1: For assistance in understanding the "Index TO THE Technical Annex" see Notes 2 to 11 below.

NOTE 2: "Coordination not required at this time" in the Remarks column indicates that the present use of these frequencies does not cause conflict in their application, either in the United States or Canada. However, authorized Agencies are designated to coordinate any future use which may be capable of causing harmful interference.

NOTE 3: Item numbers AA to GG were chosen for that portion of the respective band which requires coordination with other Agencies in order to separate them clearly from the original item numbers.

NOTE 4: In the VHF/UHF portion of the fixed/land mobile bands the frequencies indicated are the first and last assignable Canadian frequencies within the band. However, in the 890.0 MHz band and above the band-edge frequencies are indicated. Should the bandwidth of a Canadian frequency be such that its emissions could cause harmful interference to systems operated by 2 U.S. Agencies, coordination must be carried out with both Agencies involved. e.g. 942.0 MHz JCS and FCC; 1850 MHz IRAC and FCC, etc.

NOTE 5: The Department of Transport is the recognized Coordination Agency for effecting Canada/U.S. coordination in this band. When processing licence applications where the applicant is the DOT it is assumed, for DFL purposes, that the coordination Code "B" applies if the station is within the Canada/U.S. coordination zone. Use of frequencies in this band by other applicants must be referred to these Headquarters for appropriate national coordination action.

NOTE 6: See U.S.A./Canada Interim Channelling Arrangement for the Aeronautical Mobile (R) (Enroute) Service utilizing 25 kHz channels for the band 128.8125 - 132.0125 MHz.

NOTES REFERRING TO THE INDEX

TO THE TECHNICAL ANNEX

NOTE 7: Coordination channel for NON-MILITARY (CIVIL) frequencies.

NOTE 8: Coordination channel for MILITARY (DND) frequencies.

NOTE 9: See Revised Attachment "A" and "B" also Attachments "C", "D", "E" and "F" relating to the Coordination, Channelling Arrangement and use of those frequencies set forth in Appendix 18 of the International Radio Regulations (Geneva 1967) as they apply to the specific services in the areas concerned.

NOTE 10: The Canada/U.S. Coordination Agreement above 30 MHz did not include the coordination of frequencies within the 410-420 MHz band when the Agreement became effective. However, due to the extensive use of the frequencies within this band by both countries, it was subsequently informally agreed to that all future assignments be coordinated between IRAC-DOC under Arrangement D. This band will be formally included in the Agreement when it is revised at some later date.

NOTE 11: On frequencies authorized to stations located within the Canada/U.S. coordination zone which have not been coordinated with the appropriate U.S. Agency (e.g. stations employing 5 watts ERP or less, for which no protection is desired) the coordination code 8 repeat 8 is to be entered in the DFL coordination column. This indicates that the assignment is within the Canada/U.S. coordination zone but coordination had not been carried out. Additionally, in those bands indicated in the Remarks column "Coordination not required at this time" no repeat No coordination code is necessary. The entry in the DFL coordination column is left blank.

REVISED ATTACHMENT "A"

Notes Pertaining to U.S./Canada Coordination of Maritime Mobile Frequencies Appearing in Appendix 18 of the International Radio Regulations annexed to the International Telecommunication Convention

1. All ship station frequencies so indicated in Appendix 18 of the applicable International Radio Regulations may be exempted from coordination between Canada and the United States provided they are utilized in accordance with those conventional uses stated in Appendix 18.

2. Should a frequency designated in Appendix 18 as a ship station frequency be required for use other than on a vessel, Canada/U.S. coordination would be required before steps are taken to place such frequencies in use.

3. All new 25 kHz channels designated for use at coast stations (see frequencies in Attachment "B" numbers 60-88 inclusive) require coordination.

4. Other channels designated in Appendix 18 for coast station use (that is, those frequencies in Attachment "B" numbered 01-23 inclusive) with the exception of 156.800 MHz, require only an exchange of information between Canada and the U.S. However, if such frequencies are required for purposes other than those conventional uses stated in Appendix 18, coordination would be required.

5. The arrangement adopted by our exchange of letters dated December 10, 1965 (reference 6320-F) and December 16, 1965 (reference 5870-1 SRE-B) continues in effect with respect to Channels 24, 25, 26, 27 and 28.

6. It is anticipated that Channels 84, 85, 86, 87 and 88 may be the subject of presently planned further discussions between our two Administrations within the framework of VHF Maritime Mobile matters. Accordingly, in the current absence of a specific plan for these channels, and in the interest of planned use of the spectrum, successful coordination of proposed operations on either or both halves of each of the referenced channels is required prior to placing the proposed operation into service.

NOTE: Re 5 and 6 above, see new channelling arrangement, effective December 15, 1976. Attachments D, E and F refer.

REVISED ATTACHMENT "B"

Channel designators	Transmitting frequencies (MHz)		Inter ship	Port operations		Public correspondence	Ship Station Frequencies	Coast Station Frequencies
	Ship Stations	Coast Stations		Single frequency	Two frequency		Coordination Requirement	Coordination Requirement
60g)	156.025	160.625			17	25	Note 1 or 2	Note 3
01	156.050f)	160.650			10	8	" " "	" 4
61	156.075	160.675			23	19	" " "	" 3
02	156.100	160.700			8	10	" " "	" 4
62	156.125	160.725			20	22	" " "	" 3
03	156.150f)	160.750			9	9	" " "	" 4
63	156.175f)	160.775			18	24	" " "	" 3
04	156.200	160.800			11	7	" " "	" 4
64	156.225	160.825			22	20	" " "	" 3
05	156.250	160.850			6	12	" " "	" 4
65	156.275	160.875			21	21	" " "	" 3
06	156.300c)		1				" " "	
66	156.325	160.925			19	23	" " "	" 3
07	156.350	160.950			7	11	" " "	" 4
67	156.375	156.375	10	10			" " "	" 3
08	156.400		2				" " "	
68	156.425	156.425		6			" " "	" 3
09	156.450	156.450	5	5			" " "	" 4
69	156.475	156.475	9	11			" " "	" 3
10	156.500	156.500	3	9			" " "	" 4
70	156.525		6				" " "	
11	156.550	156.550		3			" " "	" 4
71	156.575	156.575		7			" " "	" 3
12	156.600	156.600		1			" " "	" 4
72	156.625		7				" " "	
13	156.650	156.650	4	4			" " "	" 4
73	156.675	156.675	8	12			" " "	" 3
14	156.700	156.700		2			" " "	" 4
74	156.725	156.725		8		- - -	" " "	" 3
15d) i)	156.750	156.750	12	14				" 4
75	Guard-band 156.7625-156.7875 MHz							
16	156.800	156.800 DISTRESS SAFETY AND CALLING						
76	Guard band 156.8125 156.8375 MHz							
17d) i)	156.850	156.850	13	13			" " "	" 4
77	156.875		11				" " "	
18	156.900	161.500			3		" " "	" 4
78	156.925	161.525			12	27	" " "	" 3
19	156.950	161.550			4		" " "	" 4
79	156.975	161.575			14		" " "	" 3
20	157.000	161.600			1		" " "	" 4
80	157.025	161.625			16		" " "	" 3
21	157.050	156.050f) or 161.650			5		" " "	" 4
81	157.075	161.675			15	28	" " "	" 3
22	157.100	161.700			2		" " "	" 4
82	157.125	161.725			13	26	" " "	" 3
23	157.150	156.150f) or 161.750				5	" " "	" 4
83	157.175	156.175f) or 161.775				16	" " "	" 3
24	157.200	161.800				4	Note 1,2 or 5	" 5
84	157.225	161.825			24	13	" 6	" 6
25	157.250	161.850				3	" 1,2 or 5	" 5
85	157.275	161.875				17	" 6	" 6
26	157.300	161.900				1	" 1,2 or 5	" 5
86	157.325	161.925				15	" 6	" 6
27	157.350	161.950				2	" 1,2 or 5	" 5
87	157.375	161.975				14	" 6	" 6
28	157.400	162.000				6	" 1,2 or 5	" 5
88g)	157.425	162.025				18	" 6	" 6

EFFECTIVE DATE: AUGUST 2, 1976

ATTACHMENT "C"

VESSEL TRAFFIC SYSTEMS

1. Present Operation

a) Canadian System

The Department of Transport has established a Vessel Traffic Management Centre in West Vancouver, B.C. The Centre is equipped with MF and VHF transmission and receiving facilities situated locally and at remote sites.

The area of operation covers the western coastal waters of Canada, east of Vancouver Island, including the Straits of Juan De Fuca and portions of Queen Charlotte Sound. For reporting purposes the Vancouver Traffic Zone involved is divided into three sectors:

Sector		
# 1	Canadian waters from a line joining Carmanah light and Tatoosh Island light to a line joining Race Rocks light and Ediz Hook light, Port Angeles	Channel 11 156.55 MHz
# 2	Canadian waters inside Vancouver Island commencing from a line joining Race Rocks light and Ediz Hook light to a line joining Triangle Island and Cape Caution	Channel 11 156.55 MHz
# 3	All those waters inside a line commencing at the Iona breakwater to Gower Point	Channel 12 156.60 MHz

All vessels under the control of this system will transmit a message to the Vancouver Traffic Centre at designated calling-in points. A record of such reports will

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be maintained at the Centre and vessels reporting to the Centre will be advised of traffic reported. As all participating vessels will be on the same VHF frequency during their passage through each sector, masters of pilots will have additional information as to traffic patterns, the approximate location of each vessel and its intended movement.

b) U.S. System

The Puget Sound Vessel Traffic System is operated by the U.S. Coast Guard of the Department of Transportation. It is comprised of two major components, a traffic separation scheme, and a vessel movement reporting system.

The separation scheme consists of anetwork of one-way traffic lanes, separation zones in-between, and precautionary areas. The traffic lanes are each 1000 yards wide, and are separated by 500 yard wide separation zones.

The vessel movement reporting system is based upon a VHF communications network maintained continuously by the Coast Guard Vessel Traffic Centre in Seattle, Washington. This centre will process information received from vessels in required and voluntary reports and will, in turn, disseminate navigational safety information to vessels participating in the system.

The Vessel Traffic System area consists of the navigable waters of the United States in the Strait of Georgia, Haro Strait, and the Strait of Juan De Fuca that are east of the line of demarcation, and Rosario Strait, Bellingham Bay, Padilla Bay, Admiralty Inlet, Puget Sound, Possession Sound, Elliot Bay, Hood Canal, Commencement Bay, the Narrows west of Tacoma, Carr Inlet, Case Inlet, and navigable waters adjacent to these areas.

All vessels in this Vessel Traffic System area are required to continuously monitor the designated frequency of 156.65 MHz (channel 13) and this frequency is used to trans-

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mit and receive vessel movement data and other marine safety information. The Vessel Traffic Centre will maintain a continuous guard on channel 13 and channel 16 (156.80 MHz), the distress, safety and calling frequency.

Four remote RCVR/XMTR sites are located around Puget Sound area for total coverage:

1. Bahokus Peak.....1600 FT.
2. Mount Constitution.....2750 FT.
3. Cold Mountain.....1900 FT.
4. West Point.....100 FT.

At Port Angeles the U.S. Coast Guard occasionally uses channel 12 for the broadcast of weather and other marine information.

2. Future Plans of the Department of Transport

During the next five years, the Department of Transport plans to extend its Vessel Traffic Management System to the northern and southern coastal waters of British Columbia by the addition of two traffic zones and an additional sector to the Vancouver Traffic Zone.

a) Tofino Traffic Zone

This zone will cover the Canadian waters west of Vancouver Island (west of sector two of Vancouver Traffic Zone). By the use of channel 11 (156.55 MHz), each vessel will transmit a message giving certain basic navigation information at the critical points during her passage. As all participating vessels will be on the same VHF channel during passage, every vessel will have additional information as to traffic pattern, the approximate location of each vessel and its intended movement.

b) Prince Rupert Traffic Zone

This zone controls the Canadian waters north of Vancouver Island between a line joining Triangle Island with Cape Caution, and the Alaska/British Columbia border.

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(North of sector #3 of Vancouver Traffic Zone). The operation of this zone and the assigned frequency is identical to the Tofino Traffic Zone.

c) Fraser River Traffic Sector

This sector covers the main arm of the Fraser River between Sandheads Light and Port Mann Bridge. The frequency proposed for use in this sector is channel 74 (156.725 MHz). The operating procedure is the same as for the Tofino Traffic Zone.

3. Availability of Frequencies for Vessel Traffic System

Marine traffic control is presently classified as Ship Movement Service in the I.T.U. Radio Regulations. Referring to Appendix 18 of I.T.U. VHF frequencies in the Maritime Mobile Service, the preferred channels for Ship Movement Service are: channels 11, 12, 13, 14, 68, 69, 71, 74, 79, 80. However, it is noted that channels 68 and 69 are already assigned to other marine services on the west coast of Canada, and only channels 11, 12, 13, 14 are available for VTS in the United States at the present time.

4. ARRANGEMENTS

a) The channels 11, 12, 74 and others if required, to be used for the Canadian Vessel Traffic System.

b) Channels 13 and 14, and others if required, to be used for the Puget Sound Vessel Traffic System.

c) The U.S. Coast Guard will discontinue the use of channel 12 at Port Angeles.

EFFECTIVE DEC. 15, 1976

ATTACHMENT "D"

CANADA/U.S.A. CHANNELLING ARRANGEMENT FOR WEST COAST VHF MARITIME MOBILE PUBLIC CORRESPONDENCE

1. The provisions of this arrangement apply to waters of the State of Washington and of the Province of British Columbia within coordination boundaries of "Arrangement A" of the Canada/U.S.A. Frequency Coordination Agreement above 30 MHz.

2. This channelling arrangement applies to the following public correspondence channels of Appendix 18 Mar 2 of the International Radio Regulations: channels 24, 84, 25, 85, 26, 86, 27, 87 and 28.

3. Shore-based stations (Note 1) may be established by either country in accordance with the provisions of this arrangement without prior coordination with the other country. There shall, however, prior to implementation, be an exchange of information in respect of the establishment of new stations or a change in technical parameters of existing stations.

4. Shore-based stations proposed for establishment which are not in accordance with the provisions of this arrangement shall be subject to prior coordination in accordance with the provisions of "Arrangement A" of the Canada/U.S.A. Frequency Coordination Agreement above 30 MHz. Such stations shall not be protected from interference or cause interference to existing or future stations which are established in accordance with the provisions of this arrangement.

5. Existing stations shall comply with the provisions of this arrangement within 12 months after it becomes effective.

Note 1: In the U.S.A., a shore-based station is a coast station.

6. Definitions and Conditions:

a. Public Correspondence Sector: a distinct geographical area to which is allotted primary, supplementary and local channels. Channels shall be assigned in accordance with Annexes A and B.

b. Primary Channel: a channel intended to cover the greater portion of a public correspondence sector. It may provide some coverage of an adjacent sector but must not cause harmful interference beyond the adjacent sector.

c. Supplementary Channel: a channel intended to improve coverage of a portion of a sector poorly covered by a primary channel or to relieve traffic congestion on a primary channel. It must not cause harmful interference beyond the adjacent sector.

d. Local Channel: a low-power channel designed to provide local coverage of certain bays, inlets and ports where coverage of primary or supplementary channels is poor or where heavy traffic loading warrants it. It must not cause harmful interference to primary or supplementary channels or to local channels in other sectors.

7. Technical Characteristics of Shore-based Stations:

a. For primary and supplementary channels the maximum transmitter power shall be 50 watts and the maximum ERP shall be 125 watts. Antennas shall be sited no higher than necessary to provide the desired coverage within the sector.

b. For local channels the ERP shall not exceed 10 watts. Low siting, directive antennas and natural topography shall be employed to confine coverage to the local area and, in any event, to prevent harmful interference to channels in other sectors.

c. For station design purposes the tolerable interference level shall be considered as a received signal of -107 dBm (-137 dBW) from a vertical dipole located 30 feet above the water.

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8. In authorizing the establishment of shore-based stations without coordination under the provisions of this arrangement, each Administration shall ensure that the station coverage and interference range have been computed in accordance with sound engineering practices.

9. In the event that harmful interference is experienced by a station operating in accordance with this arrangement, the following steps shall be taken:

   a. The operator of the station affected by the interference shall report the details of the situation to his Administration and, at the same time, shall approach the operator of the station causing the interference in an attempt to resolve the problem between the two operating agencies.

   b. The Administration shall inform the other Administration of the report but, at this time, make no request for mitigating action.

   c. Should a satisfactory resolution be obtained between the two operating agencies, each shall report the results to its Administration and, at the same time, seed authorization for any consequential technical changes to the station.

   d. Failing a satisfactory resolution of the problem between the two operating agencies, the operator of the station affected by the interference shall so inform his Administration which will file a harmful interference report with the other Administration and request mitigation of the interference.

   e. Either Administration can request that coordinated tests be carried out to confirm the existence, nature and extent of the interference.

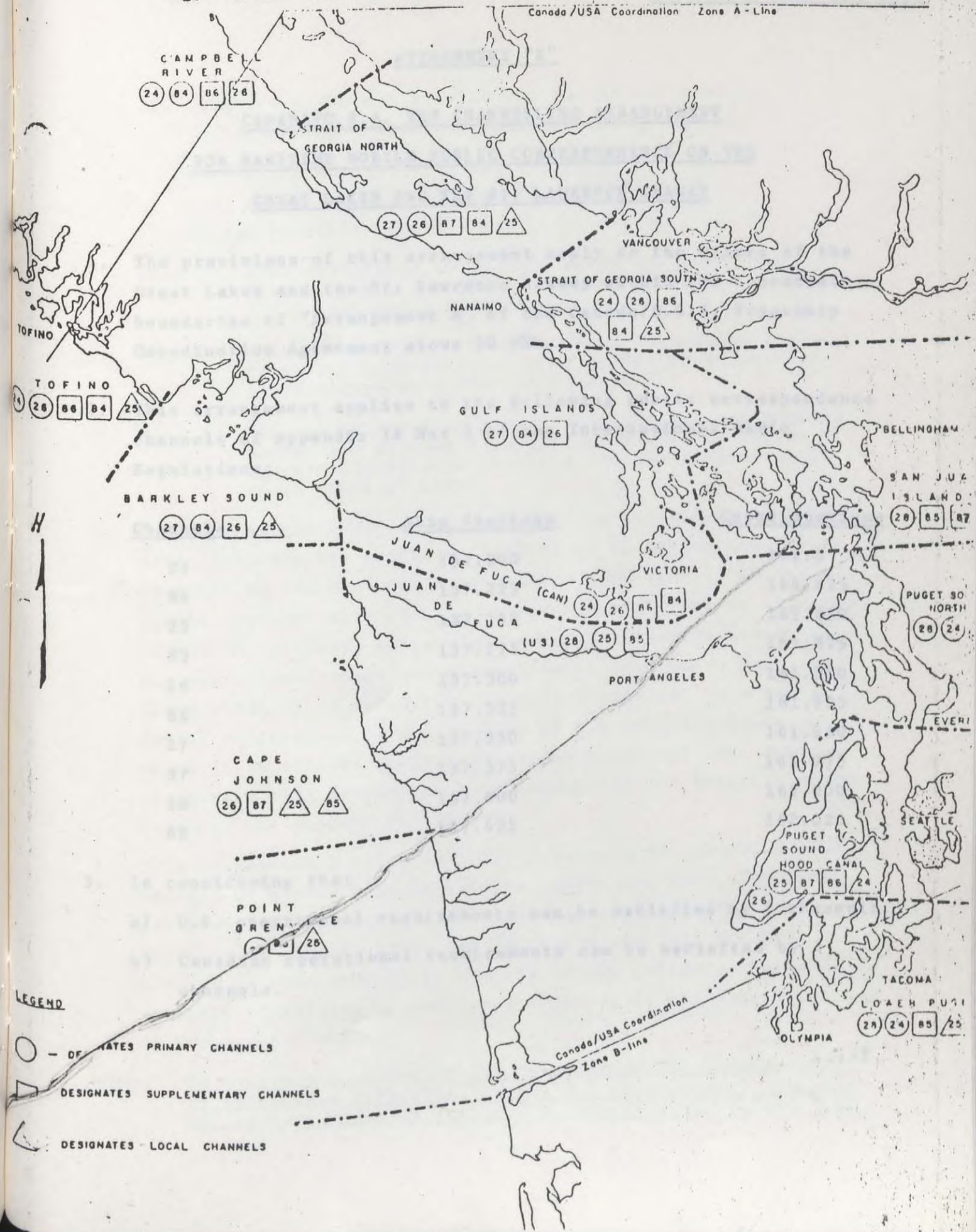
10. This arrangement, which is subject to periodic review at the request of either Administration, supersedes the provisions set forth in the Canada/U.S. exchanges of letters dated December 10 and 16, 1965, and January 9 and June 8, 1973, insofar as they pertain to the use of the public correspondence channels stipulated in paragraph 2 above, in the area described in paragraph 1 above.

ANNEX A

CHANNELLING ARRANGEMENT

PUBLIC CORRESPONDENCE SECTOR	PRIMARY CHANNEL	SUPPLEMENTARY CHANNEL	LOCAL CHANNEL	REMARKS
BRITISH COLUMBIA				
Tofino	24 26	86 84	25	
Barkley Sound	27 84	26	25	
Juan de Fuca (Can)	24 26	86 84		
Gulf Islands	27 84	26		
St.of Georgia South	24 26	86 84	25	
St.of Georgia North	27 26	87 84	25	
Campbell River	24 84	86 26		
WASHINGTON				
Cape Johnson	26	87	85 25	
Pt. Grenville	28	85	25	
Juan de Fuca (USA)	28 25	85		Ch.28-Western portion. Ch.25 -Eastern portion
San Juan Islands	28	85 87		
Puget Sound North	28 24	85		Ch.28 - West of Whidbey Island Ch.24 - East of Whidbey Island
Puget Sound Hood Canal	26 25	87 86	24	
Lower Puget Sound	28 24	85	25	

WEST COAST VHF MARITIME MOBILE PUBLIC CORRESPONDENCE



ATTACHMENT "E"

CANADA/U.S.A. VHF CHANNELLING ARRANGEMENT FOR MARITIME MOBILE PUBLIC CORRESPONDENCE ON THE GREAT LAKES AND THE ST. LAWRENCE SEAWAY

1. The provisions of this arrangement apply to the waters of the Great Lakes and the St. Lawrence Seaway within the coordination boundaries of "Arrangement A" of the Canada/U.S.A. Frequency Coordination Agreement above 30 MHz.

2. This arrangement applies to the following public correspondence channels of Appendix 18 Mar 2 of the International Radio Regulations:

Channels	Ship Stations	Coast Stations
24	157.200	161.8
84	157.225	161.825
25	157.250	161.850
85	157.275	161.875
26	157.300	161.900
86	157.325	161.925
27	157.350	161.950
87	157.375	161.975
28	157.400	162.000
88	157.425	162.025

3. In considering that

   a) U.S. operational requirements can be satisfied by 5 channels.

   b) Canadian operational requirements can be satisfied by 4 channels.

.../2

c) Canada and the U.S.A. will use one shared channel, the following channelling arrangement is agreed:

Canadian channels: 24, 85, 27, 88 Note 1
U.S. channels: 84, 25, 86, 87, 28 Note 2
Shared channel: 26 Note 3

Note 1) Also assignable to United States stations within the frequency coordination zone, following successful coordination with Canada.

Note 2) Also assignable to Canadian stations within the frequency coordination zone, following successful coordination with the United States.

Note 3) Changes to existing assignments and new assignments within the frequency coordination zone of either country are subject to prior coordination with the other Administration.

4. In adopting the above arrangement, it is understood that each Administration has complete flexibility in making use of its channels within the frequency coordination zone; that the option provided by footnotes 1) and 2) should not be exercised unless the proposed assignment cannot be accommodated on a channel alloted under the plan; that an assignment made under the provisions of footnotes 1) or 2) should not be a bar to future utilization of the channel by the Administration to which it is alloted under this arrangement; and that such an assignment will be vacated if requested by the Administration to which the channel is alloted.

5. This arrangement, which is subject to periodic review at the request of either Administration, supersedes the provisions set forth in the Canada/U.S.A. exchanges of letters dated December 10 and 16, 1965, and January 9 and June 8, 1973, insofar as they pertain to the use of the public correspondence channels stipulated in paragraph 3 above, in the area described in paragraph 1 above.

NOTE: No Canada-U.S. Coordination required if assignments made in accordance with this Channelling Arrangement. Channel 26, however requires Canada-U.S. Coordination in all cases.

EFFECTIVE DEC. 15, 1976

ATTACHMENT "F"

CANADA/U.S.A. CHANNELLING ARRANGEMENT FOR EAST COAST VHF MARITIME MOBILE PUBLIC CORRESPONDENCE

1. The provisions of this arrangement apply to the Canadian and U.S.A. east coast waters including the St. Lawrence River east of the St. Lawrence Seaway within the coordination boundaries of "Arrangement A" of the Canada/U.S.A. Frequency Coordination Agreement above 30 MHz.

2. This arrangement applies to the following public correspondence channels of Appendix 18 Mar 2 of the International Radio Regulations:

Channels	Ship Stations	Coast Stations
24	157.200	161.8
84	157.225	161.825
25	157.250	161.850
85	157.275	161.875
26	157.300	161.900
86	157.325	161.925
27	157.350	161.950
87	157.375	161.975
28	157.400	162.000
88	157.425	162.025

3. In considering that

   a) U.S. operational requirements can be satisfied by 5 channels.

   b) Canadian operational requirements can be satisfied by 4 channels.

.../2

c) Canada and the U.S.A. will use one shared channel; the following channelling arrangement is agreed:

Canadian channels: 24, 85, 27, 88 Note 1

U.S. channels: 84, 25, 86, 87, 28 Note 2

Shared channel: 26 Note 3

Note 1) Also assignable to United States stations within the frequency coordination zone, following successful coordination with Canada.

Note 2) Also assignable to Canadian stations within the frequency coordination zone, following successful coordination with the United States.

Note 3) Changes to existing assignments and new assignments within the frequency coordination zone of either country are subject to prior coordination with the other Administration.

4. In adopting the above arrangement, it is understood that each Administration has complete flexibility in making use of its channels within the frequency coordination zone; that the option provided by footnotes 1) and 2) should not be exercised unless the proposed assignment cannot be accommodated on a channel alloted under the plan; that an assignment made under the provisions of footnotes 1) or 2) should not be a bar to future utilization of the channel by the Administration to which it is alloted under this arrangement; and that such an assignment will be vacated if requested by the Administration to which the channel is alloted.

5. This arrangement, which is subject to periodic review at the request of either Administration, supersedes the provisions set forth in the Canada/U.S.A. exchanges of letters dated December 10 and 16, 1965, and January 9 and June 8, 1973, insofar as they pertain to the use of the public correspondence channels stipulated in paragraph 3 above, in the area described in paragraph 1 above.

NOTE: No Canada-U.S. Coordination required if assignments made in accordance with this Channelling Arrangement. Channel 26, however, requires Canada-U.S. Coordination in all cases.

EFFECTIVE FEBRUARY 14/78

Attachment 1

U.S.A./CANADA INTERIM CHANNELLING ARRANGEMENT FOR THE AERONAUTICAL MOBILE(R) / (ENROUTE) SERVICE UTILIZING 25 KHZ CHANNELS FOR THE BAND 128.8125-132.0125 MHZ

1. This Arrangement, which is subject to periodic review at the request of either Administration, is of an interim nature pending its incorporation into an Allotment Plan for certain bands allotted to the aviation services to meet the United States and Canadian aeronautical frequency requirements along the U.S./Canada border, to the mutual satisfaction of both countries.

2. Implementation of 25 kHz channel assignments by either Administration shall become effective on the date of signing of Letters of Understanding by both the United States and Canada. The use of 50 and 100 kHz equipments shall not be protected from properly operating 25 kHz equipments beyond February 1, 1981.

3. The provisions of this Arrangement apply to Canada and the United States in the utilization of the 25 kHz channels for the band 128.8125-132.0125 MHz which appear in paragraph 4 below.

4. These 25 kHz channels are allotted as follows:

Freq. MHz	U.S.A.	Canada	Freq. MHz	U.S.A.	Canada
128.825	X		129.625	X	
.875		X	.675		X
.925	X		.725	X	
.975		X	.775		X
129.025	X		.825	X	
.075		X	.875		X
.125	X		.925	X	
.175		X	.975		X
.225	X		130.025	X	
.275		X	.075		X
.325	X		.125	X	
.375		X	.175		X
.425	X		.225	X	
.475		X	.275		X
.525	X		.325	X	
.575		X	.375		X

.../2

Freq. MHz	U.S.A.	Canada	Freq. MHz	U.S.A.	Canada
130.425	X		131.225	X	
.475		X	.275		X
.525	X		.325	X	
.575		X	.375		X
.625	X		.425	X	
.675		X	.475		X
.725	X		.525	X	
.775		X	.575		X
.825	X		.625	X	
.875		X	.675		X
.925	X		.725	X	
.975		X	.775		X
131.025	X		.825	X	
.075		X	.875		X
.125	X		.925	X	
.175		X	.975		X

Note 1) Frequencies primarily allotted for United States use may also be assigned to Canadian stations within the frequency coordination zones listed in Attachment 2 following successful coordination with the United States.

Note 2) Frequencies primarily allotted for Canadian use may also be assigned to United States stations within the frequency coordination zones listed in Attachment 2 following successful coordination with Canada.

Note 3) All frequencies listed in paragraph 4 may be assigned without prior coordination outside the coordination zones listed in Attachment 2.

5. Frequencies proposed for assignment in accordance with paragraph 4 above, which will be located within 25 NM of the U.S./Canada border, shall be coordinated with the other Administration prior to implementation. Requests for frequency assignments removed 25 kHz from existing assignments listed in Attachment 3 will be coordinated when such an assignment will be within 130 NM of the existing station. With these exceptions, frequencies may be assigned and stations established by either country in accordance with paragraph 4 without coordination with the other country.

.../3

6. In adopting the above Arrangement, it is understood that each Administration has complete flexibility in making use of its channels within the frequency coordination zone; that the option provided by Notes (1) and (2) should not be exercised unless the proposed assignment cannot be accommodated on a channel allotted under the plan; that an assignment made under the provisions of Notes (1) and (2) should not be a bar to future utilization of the channel by the Administration to which it is allotted under this Arrangement. However, in the event that return of a frequency is deemed necessary by the Administration to which it is allotted in paragraph 4 above, consideration shall be given to the overall frequency utilization in the area of the proposed station. Before an Administration requests the return of one of its allotted frequencies, it shall be established that it cannot otherwise meet its operational requirements. Where a determination indicates congestion of equal magnitude, consideration should be given to the sharing of a frequency on an equal basis by the two countries. In cases where such determination indicates greater congestion in the area of the proposed station, the frequency shall be returned to the Administration to which the channel is allotted.

7. In order to ensure protection of the Air Traffic Control frequencies 128.8 and 132.025 MHz, the assignment of the frequencies 128.825 and 131.975 MHz within 600 NM of the U.S./Canada border are subject to prior coordination with the other Administration.

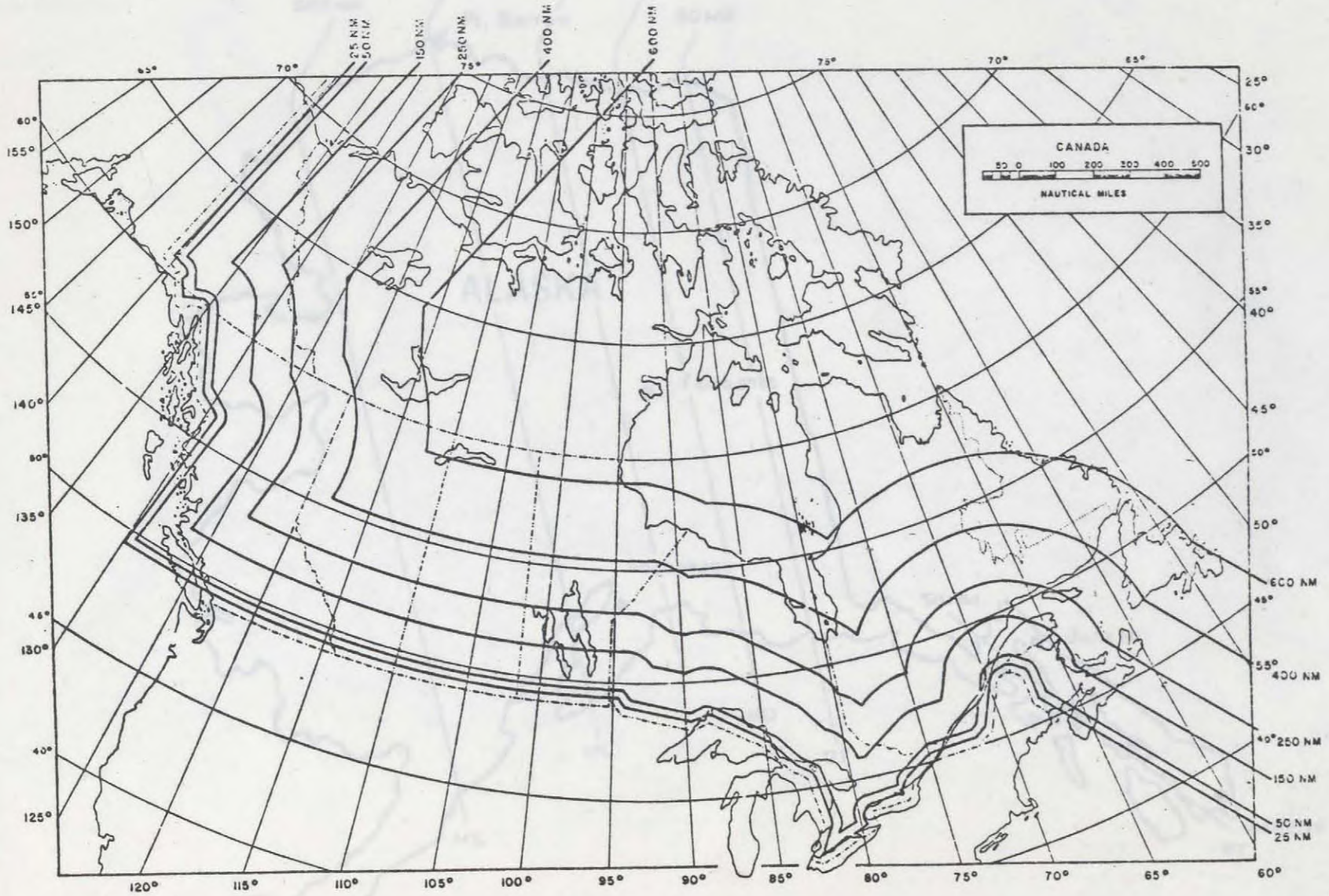
Attachment 2

FREQUENCY COORDINATION ZONES FOR CO-CHANNEL ASSIGNMENTS

Type of Station		Altitude Level (Feet)	Coordination Zone (Nautical Miles)
Ramp	(RT)	Ground Level	50
Helicopter	(HO)	0 to 2,000	150
Low Level	(LL)	0 to 10,000	250
Mid Level	(ML)	0 to 20,000	400
High Level	(HL)	Over 20,000	600

U.S. 25 kHz Assignment will be Coordinated with Canada when adjacent to and within 130 NM of the Existing 50 kHz Canadian Assignments Listed Hereunder

LOCATION	FREQUENCY (MHZ)
Abbotsford, B.C.	129.25 130.8
Burnaby, B.C.	130.0
Delta, B.C.	128.85 130.35
Saltspring Island, B.C.	130.5
Vancouver, B.C.	129.25 129.35 129.9 130.8 130.9 131.2
Victoria, B.C.	129.2 130.6
Fort Frances, Ont.	130.15
Sarnia, Ont.	130.35
Sault Ste. Marie, Ont.	130.15 130.9
St. Catherines, Ont.	131.1
Windsor, Ont.	131.1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NAUTICAL MILES
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50 NM
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400 NM
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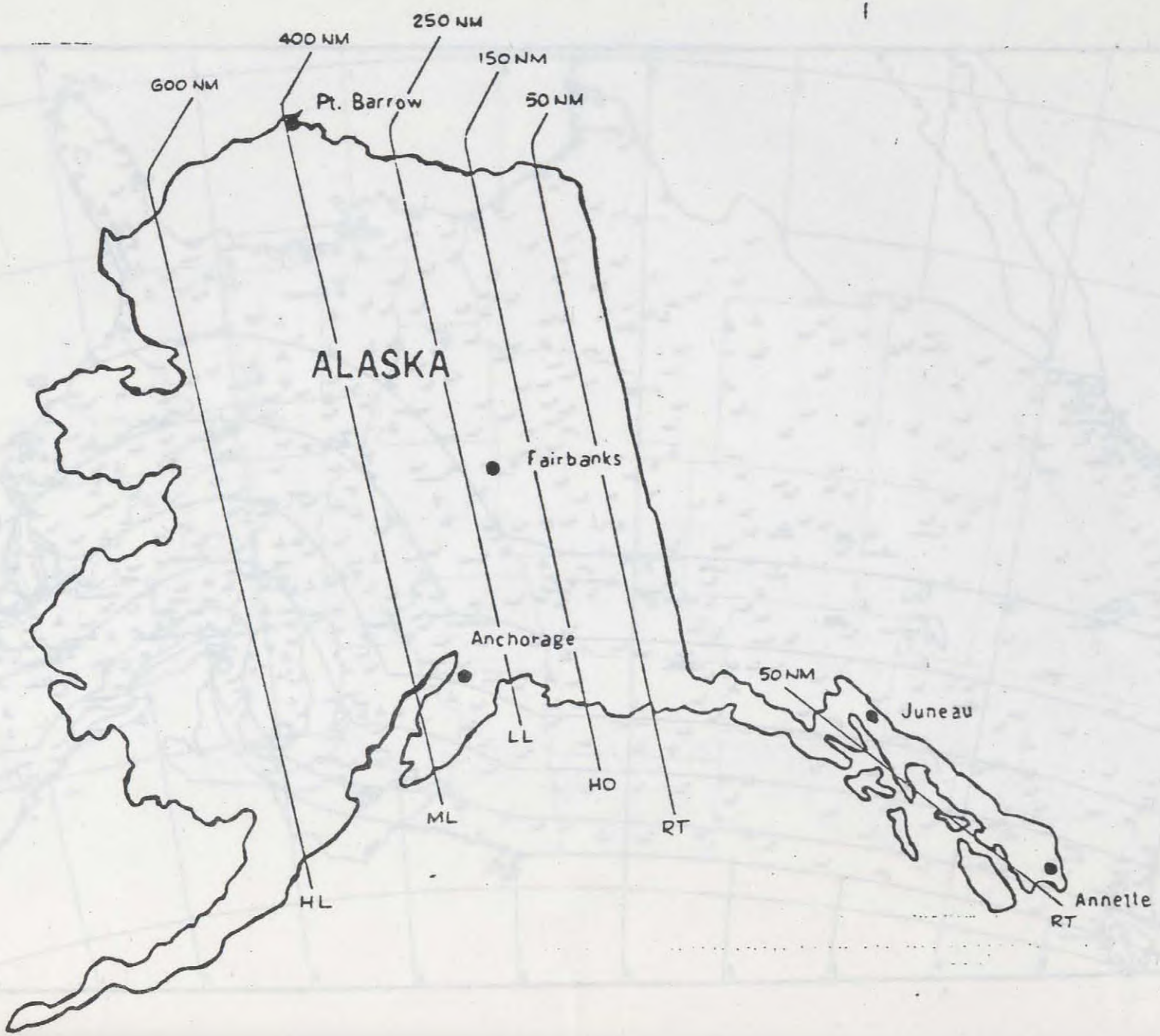
25 NM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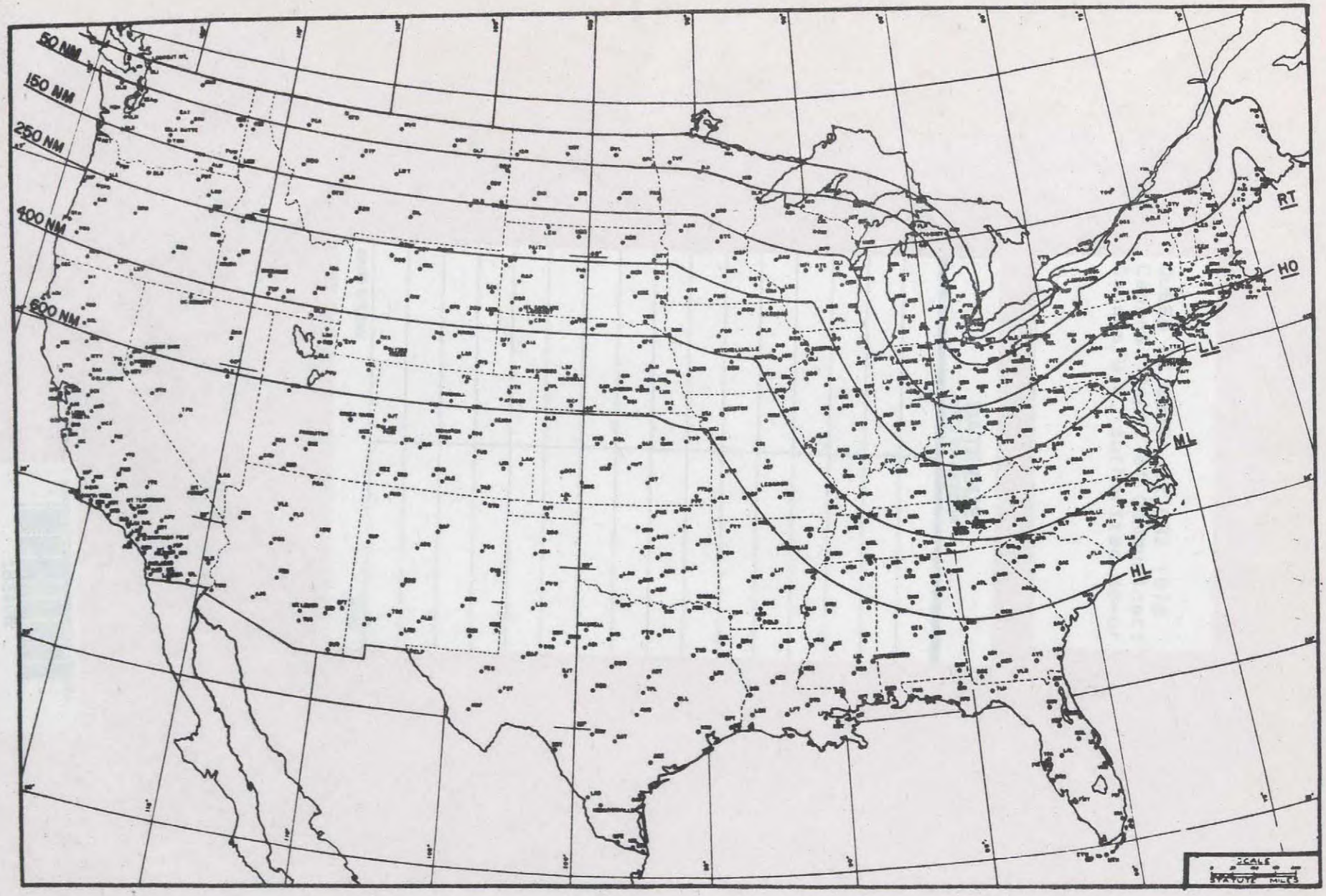
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250 NM
400 NM
600 NM
RT
HO
LL
ML
HL
SCALE
STATUTE MILES