

N° 4613.

**ÉTATS-UNIS D'AMÉRIQUE
ET CANADA**

**Echange de notes comportant un arrangement
relatif à l'emploi de la radio pour des ser-
vices aéronautiques civils, avec annexes.
Washington, le 20 février 1939.**

*Texte officiel anglais communiqué par le chargé d'Affaires a. i. des Etats-Unis
d'Amérique à Berne. L'enregistrement a eu lieu le 3 août 1939.*

**UNITED STATES OF AMERICA
AND CANADA**

**Exchange of Notes constituting an Arrange-
ment concerning the Use of Radio for
Civil Aeronautical Services, with Annexes.
Washington, February 20th, 1939.**

*English official text communicated by the Chargé d'Affaires a.i. of the United
States of America at Berne. The registration took place August 3rd, 1939.*

No. 4613. — EXCHANGE OF NOTES¹ BETWEEN THE GOVERNMENT OF THE UNITED STATES OF AMERICA AND THE GOVERNMENT OF CANADA CONSTITUTING AN ARRANGEMENT CONCERNING THE USE OF RADIO FOR CIVIL AERONAUTICAL SERVICES. WASHINGTON, FEBRUARY 20TH, 1939.

DEPARTMENT OF STATE.

I.

SIR,

WASHINGTON, *February 20th*, 1939.

I have the honor to refer to negotiations which have taken place between the Government of the United States of America and the Government of Canada for the conclusion of a United States-Canadian Regional Arrangement governing the Use of Radio for Civil Aeronautical Services.

It is my understanding that it has been agreed in the course of the negotiations, now terminated, that the Arrangement shall be as follows :

UNITED STATES-CANADIAN REGIONAL ARRANGEMENT GOVERNING THE USE OF
RADIO FOR CIVIL AERONAUTICAL SERVICES.

Article I. — SCOPE.

The present Arrangement between the United States and Canada concerns primarily the radio communication service of civil aeronautics and civil air navigation services. Except for Article XIII, the subject matter of this Arrangement is confined to the frequencies 200-400 kc. and above 30,000 kc. Services other than civil aeronautical which may incidentally be involved from the standpoint of interference to and by the civil aeronautical radio services are treated in Article XVII. Nothing in this Arrangement shall be construed as lessening in any manner or to any degree the rights enjoyed by the national defense services of either country.

Article II. — APPLICATION.

Nothing in the present Arrangement shall contravene the pertinent portions of the International Telecommunication Convention², Madrid, 1932; the Radio Regulations annexed thereto to which the Parties to this Arrangement have subscribed; the Inter-American Radio Communications Convention, Habana, 1937, and the Inter-American Arrangement on Radio Communications, Habana, 1937, or such documents as may supplant them as a result of subsequent conferences.

Article III. — STANDARDIZATION.

In order that international flying may be facilitated, the standardization and use of aeronautical radio facilities are provided for in this Arrangement. Appendix I lists the standard classes of aeronautical radio aids approved for service operation.

¹ Came into force February 20th, 1939.

² Vol. CLI; Vol. CLVI, page 323; Vol. CLX, page 440; Vol. CLXIV, page 431; Vol. CLXXXI, page 423; Vol. CLXXXV, page 412; Vol. CLXXXIX, page 486; and Vol. CXCHII, page 273, of this Series.

Article IV. — GEOGRAPHICAL SPACING OF AERONAUTICAL STATIONS.

In accordance with the general principles governing the economical use of the available channels, assignments shall be duplicated with a minimum practicable geographical separation between stations as determined by permissible ratio of interfering signal to desired signal, characteristics of the frequencies in use, and the areas of operation of the stations concerned.

Article V. — SHARING OF CHANNELS.

The principle of the sharing of frequencies which are made available for aeronautical services by international convention is fully recognized, particularly, however, with respect to those allocated to such services by the Inter-American Arrangement concerning Radio Communications, Habana, 1937. Recognition is given, however, to the priority of existing services as set forth in Article XVII and Appendix IV. In general, assignments to a new station shall be treated as an individual problem to be solved by engineering methods.

Article VI. — FIELD INTENSITY.

In order that radio interference beyond the service area may be reduced to a minimum, radiated power should ordinarily be adjusted to a value consistent with a normal required field intensity within the prescribed area in which it is desired to render service.

BAND 200-400 KC.

Article VII. — GEOGRAPHICAL SPACING.

In the case of radio range stations in the band 200-400 kc., the geographical spacing of the stations shall be not less than that prescribed in the curve shown in Appendix II. For powers other than four hundred watts, the distances shown in Appendix II shall be modified accordingly.

Article VIII. — STANDARDIZATION OF QUADRANT SIGNALS.

For uniformity and for purpose of course orientation, the characteristic "N" shall be utilized in the quadrant through which the true north line passes, except when the northerly course is true north, in which case the characteristic signal "N" should be in the northwest and southeast quadrants. The "A" signal should always fall in the quadrants adjacent to those occupied by the "N" signal.

Article IX. — IDENTIFICATION SIGNALS.

The identification signal employed to identify individual radio range stations shall consist of two letters and shall be assigned without duplication. Where practicable, the signal used to establish the identity of radio facilities at any particular point should correspond to the designator for weather reports from the same station.

Article X. — SPACING AND ASSIGNMENT OF CHANNELS.

The channel spacing for radio range transmitters in the band 200-400 kc. shall be 3 kc. and the radio range channels shall be as set out in Appendix IV.

The frequency assignments to the radio range stations in the United States and Canada shall be set out as in Appendix V.

BAND ABOVE 30,000 KC.

Article XI. — DEVELOPMENT IN COMMUNICATION.

It is recognized that many services of aeronautics may be accommodated in the band above 30,000 kc. It is further recognized that the use of such frequencies for aviation purposes is still on an experimental basis.

The Parties accordingly agree to cooperate in the development of the use of this ultra high frequency band so that frequencies of the same order may be used for similar purposes throughout the United States and Canada and that the table shown in Appendix III shall be used as a guide when making assignments in this band for aeronautical use.

Article XII. — ULTRA HIGH CALLING AND WORKING FREQUENCY.

If and when ultra high frequencies come into use for aeronautical purposes, 141,780 kc. shall be designated as a calling and working frequency from plane to ground.

GENERAL PROVISIONS.

Article XIII. — NORMAL CALLING AND WORKING FREQUENCIES.

It is agreed that the United States and Canada will use 3,105 kc. as the international calling and working frequency for use by itinerant aircraft and for emergency use by transport aircraft. 6,210 kc. will also be used for secondary purposes as a calling and working frequency, available to itinerant and other aircraft by arrangement, when the circumstances are such as to make the use of 3,105 kc. unsuitable.

Article XIV. — SPECIFIC ALLOCATION OF AIRPORT CONTROL FREQUENCY.

The frequency 278 kc. will continue to be used as an airport control frequency with the expectation that after January 1st, 1939, no new assignments to airport control stations on this frequency will be made unless there is installed for simultaneous use facilities for operation on frequencies between 129 and 132 megacycles. It is further proposed that the use of 278 kc. for airport control purposes may be discontinued after January 1st, 1940, and replaced by frequencies between 129 and 132 megacycles.

Article XV. — EXCHANGE OF INFORMATION.

Information pertaining to civil aeronautics including frequency assignments, power, location of stations, identification signals and course orientation shall be exchanged directly between the administrative agencies of the two Parties.

Article XVI. — INFRINGEMENTS.

The Parties undertake to inform each other concerning any infringement of the provisions of this Arrangement in order to facilitate corrective action.

Article XVII. — SERVICES OTHER THAN CIVIL AERONAUTICAL.

(a) *National Defense.* — This Arrangement recognizes the paramount requirements of national defense as established by Article 39 of the International Telecommunication Convention, Madrid, 1932, and by such national legislation in harmony therewith as has been or may in future be enacted.

(b) *Marine Radiobeacons* are recognized as operating in the United States and Canada in the band 285-315 kc. as provided in the Madrid Telecommunication Convention and the General

Radio Regulations annexed thereto. The use for aeronautical purposes of these frequencies or immediately adjacent frequencies shall be restricted to locations and powers which will not cause interference with marine radiobeacons along the seacoasts and on the Great Lakes.

(c) *Marine Direction-Finding Service* is recognized as operating in the United States and Canada in the band 365-385 kc. as provided in the Madrid Telecommunication Convention and the General Radio Regulations annexed thereto. The use for aeronautical purposes of these frequencies or immediately adjacent frequencies shall be restricted to locations and powers which will not cause interference with marine radio direction-finding services.

(d) *Marine Communication Services* are recognized as operating in the United States and Canada on certain frequencies between 385 and 400 kc. as provided in the Madrid Telecommunication Convention and the General Radio Regulations annexed thereto. The use for aeronautical purposes of these frequencies or immediately adjacent frequencies shall be restricted to locations and powers which will not cause interference with marine communication services.

CONCLUSION.

Article XVIII. — ABROGATION.

It is mutually agreed that all existing informal undertakings between the Parties or the administrative agencies thereof with respect to radio allocations to aeronautical services provided for herein are hereby superseded and become inoperative upon the effective date of this Arrangement regardless of any contrary provisions for denunciation which may appear in such existing agreements.

Article XIX. — EFFECTIVE DATE.

The effective date of this Arrangement shall be established at the time of the exchange of notes effectuating it.

Article XX. — AMENDMENT.

The Appendices to the present Arrangement, but not the Arrangement itself, may be amended by mutual agreement of the authorized agencies of the Parties hereto.

Article XXI. — DENUNCIATION.

The present Arrangement shall be subject to termination by either Government upon sixty days' notice given in writing to the other Government.

The Appendices to the proposed Arrangement, which, under the terms of Article XX thereof, may be amended by mutual agreement of the authorized agencies of the Parties thereto, are transmitted as enclosures to this Note.

I shall be glad to have you inform me whether it is the understanding of your Government that the terms of the Arrangement agreed to in the negotiations are as above set forth. If so, it is suggested that the Arrangement become effective as of the date of this Exchange of Notes. If your Government concurs in this suggestion, the Government of the United States will regard it as becoming effective on that date.

Accept, Sir, the renewed assurances of my highest consideration.

The Honorable Sir Herbert Marler, P.C., K.C.M.G.,
Minister of Canada.

For the Secretary of State :
G. S. MESSERSMITH.

APPENDIX I.

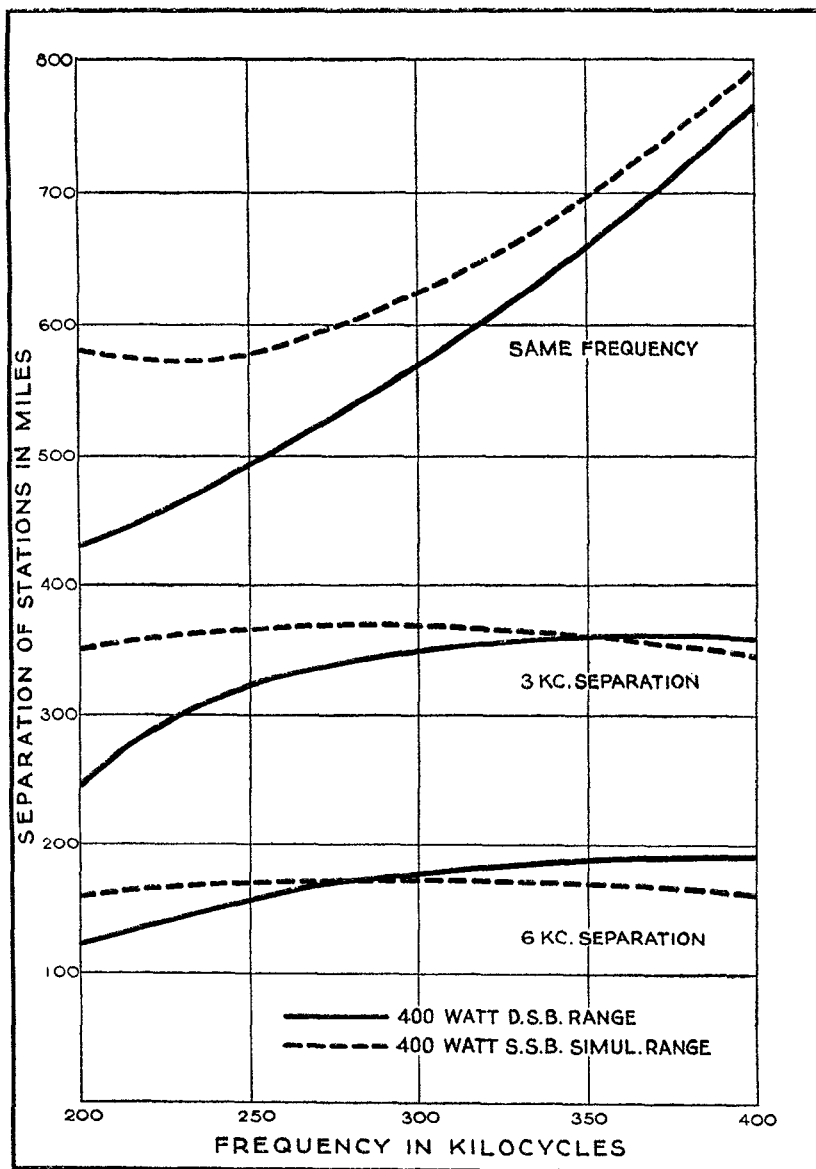
STANDARD TYPES OF AERONAUTICAL RADIO AIDS APPROVED FOR SERVICE OPERATION.

1. Aeronautical Stations (Air to ground and ground to plane).
2. Aeronautical point to point stations (Intermediate and High).
3. Airways Marker Stations.
 - M : Marker Non-directional.
 - FM : Marker Fan type Ultra-High 100 watts.
 - MO : Outer marker for instrument landings.
 - MI : Inner marker for instrument landings.
4. Radio Range Station.
 - SRA : Simultaneous transmission of range signals and voice (Adcock vertical radiators) Power 400 watts (Transmitter carrier output).
 - SMRA : Simultaneous transmission of range signals and voice (Adcock vertical radiators) Power 50 to 150 watts.
 - RA : Range adcock vertical radiators. Power 400 watts.
 - MRL : Range loop radiators. Power 50 to 100 watts.
 - ML : Range loop radiators. Power less than 50 watts.
 - Z : Cone of silence marker. UHF 5 watts.

Note : The addition of " B " to the above designators indicates that the station concerned broadcasts information on a regular schedule.
5. Airport Traffic Control Stations.
 - 15 watts on 278 KCS.
 - 100 watts on UHF.
6. Glide Path Station.
 - GP power 200 to 500 watts on UHF.
7. Localizer Station.
 - GPL power up to 100 watts UHF.
8. Aviation Instruction Station.

APPENDIX II.

RELATION BETWEEN CARRIER FREQUENCY AND RECOMMENDED GEOGRAPHICAL SPACING OF RADIO RANGE STATIONS FOR CARRIER SEPARATION INDICATED.



APPENDIX III.

ALLOCATION OF ULTRA HIGH FREQUENCIES FOR USE OF AERONAUTICAL SERVICES.

Frequency in kc	Type of Service	Frequency in kc	Type of Service
33,420	Aviation (Instructional Flying)	65,780	Marine and radiotelephone and radio- teletype ; ground to aircraft
35,580	" " "		
37,860	" " "		
39,060	" " "	860	" "
60,180	Radiotelephone and radioteletype ground to aircraft	74,600	Guard
260	" "	680	" "
420	" "	760	" "
580	" "	840	" "
660	" "	920	" "
820	" "	75,000	Aviation markers
980	" "	080	Guard
61,060	" "	160	" "
220	" "	240	" "
380	" "	320	" "
460	" "	400	" "
620	" "	93,500	Instrument Landing Glide Path
780	" "	900	" "
860	" "	94,300	" "
62,020	" "	109,500	Instrument Landing Lateral Guid- ance (Localizers)
180	" "		
260	" "		
420	" "	900	" "
580	" "	110,300	" "
660	" "	123,100	Airway Radio Range
820	" "	200	" "
980	" "	300	" "
63,060	" "	400	" "
220	" "	500	" "
380	" "	600	" "
460	" "	700	" "
620	" "	800	" "
780	" "	900	" "
860	" "	124,000	" "
64,020	" "	100	" "
180	" "	200	" "
260	" "	300	" "
420	" "	400	" "
580	" "	500	" "
660	" "	600	" "
820	" "	700	" "
980	" "	800	" "
65,060	" "	900	" "
220	" "	125,000	" "
380	" "	100	" "
460	" "	200	" "
620	" "	300	" "

Frequency in kc	Type of Service	Frequency in kc	Type of Service
400	Airway Radio Range	129,780	Airport Traffic Control
500	"	130,300	"
600	"	130,860	"
700	"	131,420	"
800	"	131,840	"
900	"	132,120	Aviation "
126,000*	"	133,940	"
100*	"	135,200	"
200*	"	136,320	"
300*	"	137,020	"
400*	"	138,280	"
500*	"	138,980	"
600*	"	139,820	"
700*	"	140,520	"
800*	"	141,220	"
900*	"	141,780	Aviation U. S. and Canada Calling and Working.
127,000*	"		
100*	"		
129,300	Airport Traffic Control		

* The national defense aeronautical services have priority. These frequencies may be used by civil aeronautical services on a secondary basis.

APPENDIX IV.

ALLOCATIONS OF AND RESTRICTIONS ON CIVIL AERONAUTICAL FREQUENCIES BASED ON 400 WATTS CARRIER POWER.

Frequencies	Restrictions	Frequencies	Restrictions
200 (C)		260 None	
203 (C)		263 "	
206 Not to be used by the U. S. within 450 miles of Edmonton. (D)		266 "	
209 (A)		269 (A)	
212 (A)		272 (A)	
215 Not to be used within 800 miles of sea coast. (B) (E)		275 Not to be used within 800 miles of sea coast. (A) (B) (E)	
218 (A) (C)		278 None	
221 (A) (C)		281 Not to be used within 200 miles of sea coast or Great Lakes.	
224 (A)			
227 (A)		284 Not to be used within 400 miles of sea coast or Great Lakes.	
230 None			
233 "			
236 "		287 Not to be used within 600 miles of sea coast or Great Lakes.	
239 "			
242 "			
245 Not to be used within 800 miles of sea coast. (B) (E)		290 "	
248 None		293 "	
251 (A)		296 "	
254 None		299 "	
257 (A)		302 "	
		305 "	

Frequencies	Restrictions	Frequencies	Restrictions
308	Not to be used within 600 miles of sea coast or Great Lakes.	359	Not to be used within 200 miles of sea coast.
311	„	362	None.
314	„	365	Not to be used within 60 miles of sea coast. (B)
317	Not to be used within 400 miles of sea coast or Great Lakes.	368	Not to be used within 400 miles of sea coast. (B)
320	Not to be used within 200 miles of sea coast or Great Lakes.	371	Not to be used within 700 miles of sea coast. (B)
323	Not to be used within 800 miles of sea coast. (B) (E)	374	Not to be used within 1,000 miles of sea coast. (B)
326	None	376	Not to be used within 1,000 miles of sea coast. (B)
329	„	379	Not to be used within 700 miles of sea coast. (B)
332	„	382	Not to be used within 400 miles of sea coast. (B)
335	„	385	Not to be used within 60 miles of sea coast. (B)
338	„	388	Not to be used within 400 miles of sea coast. (B)
341	„	391	Not to be used within 400 miles of sea coast. (B)
344	(A)	394	Not to be used within 700 miles of sea coast. (B) (C)
347	None		
350	„		
353	Not to be used within 500 miles of sea coast. (E)		
356	Not to be used within 800 miles of sea coast. (B) (E)		

A. This or a frequency within 1 kilocycle is used by low powered stations in Alaska. Future assignments should not cause interference to these stations.

B. The use of this frequency for aeronautical purposes must not cause interference to marine services to which the frequency is primarily assigned. The mileage figure is given only as a guide and the aeronautical service can not claim protection from interference by marine services.

C. Frequencies 201, 219, and 396 KCS are used for special safety services throughout the continental United States and Alaska and are to be protected. Assignments on adjacent frequencies must not cause them interference.

D. This frequency is used by certain radio stations north of Edmonton and future assignments should not cause interference to these stations.

E. Interference to adjacent frequencies from mobile services afloat may be expected.

APPENDIX V.

FREQUENCY ASSIGNMENTS TO RADIO RANGE STATIONS IN THE UNITED STATES AND CANADA, AS OF JANUARY 14TH, 1938.

Frequency	Stations	Frequency	Stations
200	(Army) Maxwell Field, Ala.		
203			
206	Las Vegas, Nev. ; Mullan Pass, Idaho ; Portland, Maine ; Roanoke, Va. ; Abi-		lene, Texas ; Roseburg, Ore. ; Tampa, Fla. ; Lansing, Mich. ; Brownsville, Tex.

Frequency	Stations	Frequency	Stations
209	McConnellsburg, Pa. ; New Florence, Mo. ; St. Louis, Mo. ; Saugus, Calif. ; Waynoka, Okla. ; Parco, Wyo. ; Stampede Pass, Wash. ; New Hackensack, N. Y. ; Lac La-Biche (Can.).		gue, Calif. ; Bakersfield, Cal. ; Springfield, Ill. ; Toledo, O.
212	Adair, Iowa ; Des Moines, Iowa ; Mercer, Pa. ; Montezume, Iowa ; Delta, Utah ; Tucumcari, N. M. ; Charlotte, N. C. ; Austin, Tex. ; Coleman (Can.).	242	Alma, Ga. ; Auburn, Calif. ; Blue Canyon, Calif. ; El Paso, Texas ; Harrisburg, Pa. ; Livermore, Calif. ; Milwaukee, Wisc. ; Oakland, Calif. ; Potrero Hill, Calif. ; Wagaming (Can.) ; Broadview (Can.) ; Cranbrook (Can.).
215	Custer, Mont.	245	(Navy) San Pedro, Calif.
218		248	Amarillo, Texas ; Anderson, S. C. ; Charlotte, N. C. ; Granger, Wyo. (to go to 382 kc) ; Mobile, Ala. ; Spartanburg, S. C. ; Strathburn (Can.) ; Terre Haute, Ind. ; Wendover, Utah ; Pagwa (Can.) ; Montreal (Can.) ; Vancouver (Can.) ; Lethbridge (Can.) ; Winnipeg (Can.) ; Ft. Smith (Can.) ; White Horse (Can.).
221	Augusta, Maine ; South Bend, Ind. ; Bristol, Tenn. ; Baker, Ore. ; Selkirk (Can.).	251	Blythe, Calif. ; Concord, N. H. ; Eugene, Ore.
224	Corpus Christi, Texas ; Bellefonte, Pa. ; Birmingham, Ala. ; Brookville, Pa. ; Davenport, Iowa ; Livingston, Mont. ; Montezuma, Iowa ; Mt. Shasta, Calif. ; Oceanside, Calif. ; San Diego, Calif. ; Sunbury, Pa. ; Tacoma, Wash. ; Woodward, Pa. ; Moncton (Can.).	254	Cambridge, Ohio ; Humboldt, Nev. ; Pittsburgh, Pa. ; Reno, Nev. ; Rodeo, N. M. ; San Antonio, Texas ; Springfield, Mo. ; Superior, Mont. ; Titusville, Fla. ; Halifax (Can.).
227	Enterprise, Utah ; Langley Field, Va. ; Creston (Can.) ; Killaloe (Can.).	257	Floyd Bennett, N. Y. ; Knoxville, Tenn. ; Joliet, Ill. ; Baltimore, Md. ; Earlton (Can.).
230	Albuquerque, N. M. ; Anton Chico, N. M. ; Arlington, Ore. ; Bismarck, N. D. ; Boston, Mass. ; Cascade Locks, Ore. ; Detroit, Mich. ; North Dalles, Wash. ; Shreveport, La. ; Langley Field, Va. ; Waterways (Can.).	260	Buffalo, N. Y. ; Cherokee, Wyo. ; Cozad, Neb. ; Easton, Wash. ; Jackson, Miss. ; Los Angeles, Calif. ; Oceanside, Calif. ; Palmdale, Calif. ; Richmond, Va. ; Seattle, Wash. ; South Boston, Va. ; Wink, Texas ; Grand Island ; Nebraska ; Pembina, N. D. ; New Glasgow (Can.).
233	Long Beach, Calif. ; Somerset, Pa. ; Savannah, Ga. ; Oakland, Calif. (Oakland to go in when Long Beach is discontinued on 233) ; Butte, Mont. ; Hope (Can.) ; Ft. William (Can.) ; Quebec (Can.).	263	Boston, Mass. ; Medford, Ore. ; Putnam, Conn. ; Sexton Summit, Ore. ; Scottfield, Ill. (Army) ; Galveston, Texas ; Grantsville, Utah.
236	Vero Beach, Fla. ; McCool, Ind. ; Oakland, Calif. (when simultaneous is installed).	266	Adairsville, Ga. ; Anderson, S. C. ; Atlanta, Ga. ; Camden, N. J. ; Canadian, Texas ; Hager City, Wis. ; Indianapolis,
239	Bangor, Maine ; Chehalis, Wash. ; Florence, S. C. ; Meridian, Miss. ; Monta-		

Fréquence	Stations	Fréquence	Stations
209	McConnellsburg (Pennsylvanie); New Florence (Missouri); Saint-Louis (Missouri); Saugus (Californie); Waynoka (Oklahoma); Parco (Wyoming); Stampede Pass (Washington); New Hackensack (New-York); Lac La-Biche (Canada).		(Mississippi); Montague (Californie); Bakersfield (Californie); Springfield (Illinois); Toledo (Ohio).
212	Adair (Iowa); Des Moines (Iowa); Mercer (Pennsylvanie); Montezume (Iowa); Delta (Utah); Tucumcari (Nouveau-Mexique); Charlotte (Caroline du Nord); Austin (Texas); Coleman (Canada).	242	Alma (Georgie); Auburn (Californie); Blue Canyon (Californie); El Paso (Texas); Harrisburg (Pennsylvanie); Livermore (Californie); Milwaukee (Wisconsin); Oakland (Californie); Potrero Hill (Californie); Wagaming (Canada); Broadview (Canada); Cranbrook (Canada).
215	Custer (Montana).	245	(Marine) San Pedro (Californie).
218		248	Amarillo (Texas); Anderson (Caroline du Sud); Charlotte (Caroline du Nord); Granger (Wyoming) (passera sur 382 kc.); Mobile (Alaska); Spartanburg (Caroline du Sud); Strathburn (Canada); Terre Haute (Indiana); Wendover (Utah); Pagwa (Canada); Montreal (Canada); Vancouver (Canada); Lethbridge (Canada); Winnipeg (Canada); Ft. Smith (Canada); White Horse (Canada).
221	Augusta (Maine); South Bend (Indiana); Bristol (Tennessee); Baker (Oregon); Selkirk (Canada).	251	Blythe (Californie); Concord (New Hampshire); Eugene (Oregon).
224	Corpus Christi (Texas); Bellefonte (Pennsylvanie); Birmingham (Alaska); Brookville (Pennsylvanie); Davenport (Iowa); Livingston (Montana); Montezuma (Iowa); Mt. Shasta (Californie); Oceanside (Californie); San Diego (Californie); Sunbury (Pennsylvanie); Tacoma (Washington); Woodward (Pennsylvanie); Moncton (Canada).	254	Cambridge (Ohio); Humboldt (Nevada); Pittsburgh (Pennsylvanie); Reno (Nevada); Rodeo (Nouveau-Mexique); San Antonio (Texas); Springfield (Missouri); Superior (Montana); Titusville (Floride); Halifax (Canada).
227	Enterprise (Utah); Langley Field (Vancouver); Creston (Canada); Killaloe (Canada).	257	Floyd Bennett (New-York); Knoxville (Tennessee); Joliet (Illinois); Baltimore (Maryland); Earlton (Canada).
230	Albuquerque (Nouveau-Mexique); Anton Chico (Nouveau-Mexique); Arlington (Oregon); Bismarck (Dakota septentrional); Boston (Massachusetts); Cascade Locks (Oregon); Detroit (Michigan); North Dalles (Washington); Shreveport (Louisiane); Langley Field (Vancouver); Waterways (Canada).	260	Buffalo (New-York); Cherokee (Wyoming); Cozad (Nébraska); Easton (Washington); Jackson (Mississippi); Los Angeles (Californie); Oceanside (Californie); Palmdale (Californie); Richmond (Vancouver); Seattle (Washington); South Boston (Vancouver); Wink (Texas); Grand Island; Nébraska; Pembina (Dakota septentrional); New Glasgow (Canada).
233	Long Beach (Californie); Somerset (Pennsylvanie); Savannah (Georgie); Oakland (Californie) (Oakland passera sur la fréquence de 233 lorsque Long Beach cessera de travailler sur cette fréquence); Butte (Montana); Hope (Canada); Ft. William (Canada); Quebec (Canada).	263	Boston (Massachusetts); Medford (Oregon); Putnam (Connecticut); Sexton Summit (Oregon); Scottfield (Illinois) (Armée); Galveston (Texas); Grantsville (Utah).
236	Vero Beach (Floride); McCool (Indiana); Oakland (Californie) (lors de l'installation de la transmission simultanée).	266	Adairsville (Georgie); Anderson (Caroline du Sud); Atlanta (Georgie); Camden (New-Jersey); Canadian
239	Bangor (Maine); Chehalis (Washington); Florence Caroline du Sud); Meridian		

Frequency	Stations	Frequency	Stations
	Ind. ; Jefferson, Ga. ; Lafayette, Ind. ; Minneapolis, Minn. ; Winslow, Ariz. ; Golva, N. D. ; Livermore, Calif. ; Edmonton (Can.) ; Kapuskasing (Can.).	304	Nashville, Tenn. ; Monteagle, Tenn.
269	Ephrata, Wash. ; Indio, Calif. ; Connellsville, Pa. (War Dept.).	305	
272	Burley, Idaho ; King Hill, Idaho ; Little Rock, Ark. ; Miami, Fla. ; Pulaski, Va. ; Sterling, Ill. ; Strevell, Idaho ; March Field (Army) ; Duncan Field, S. A. Texas (Army) ; Randolph Field, Texas (Army) ; Putnam, Conn. ; Reay (Can.) ; Slave Lake (Can.).	308	Dickinson, N. D. ; Missoula, Mont. ; Anton Chico, N. M.
275		311	
278	Alexandria, Minn. ; Ashfork, Ariz. ; Effingham, Ill. ; El Morro, N. M. ; Grand Forks, N. D. ; Greenwood, Miss. ; Guadalupe Pass, Tex. ; Kirksville, Mo. ; Lone Rock, Wis. ; Navasota, Texas ; Neosho, Mo. ; Pocatello, Idaho ; Tucumcari, N. M. ; Tylertown, Miss. ; Laramie, Wyo ; Mormon Mesa, Nev. ; Mt. Shasta, Calif. ; Needles, Calif. ; Rochester, N. Y. ; Utica, N. Y. ; Grand Rapids, Mich. ; Lafayette, Indiana ; Tyler, Texas.	314	Moran, Kansas ; Sidney, Neb. ; Malad, Idaho ; Maple Creek (Can.) (to be replaced by Medicine Hat (Can.)) ; Swift Current, Sask. (Can.).
281	Calgary (Can.).	317	Peace River (Can.) ; Advana, Mo. ; Lynchburg, Va. ; Gt. Falls, Mont.
284	Big Springs, Neb. ; Cozad, Neb. ; Louisville, Ky. ; North Platte, Neb. ; Columbus, N. M. ; Whitehall, Mont.	320	Adair, Iowa ; Allentown, Pa. ; Coeur d'Alene, Idaho ; Goshen, Ind. ; Helmer, Ind. ; Martins Creek, Pa. ; McCool, Ind. ; Milford, Utah ; Miles City, Mont. ; Omaha, Neb. ; Texarkana, Ark. ; Sioux Lookout (Can.).
287		323	
290	Granger, Wyo. ; Otto, N. M. ; Rock Springs, Wyo. ; Chesterfield, Tenn. ; Regina (Can.) ; Grand Forks (Can.).	326	Big Spring, Texas ; Burlington, Iowa ; Cheyenne, Wyo. ; Jarvis, Ont. (Can.) ; Morse, Ill. ; Phoenix, Ariz. ; Williams Calif. ; Potrero Hill, Calif. ; Pensacola, (Navy) ; Mitchell Field (Army) ; Kenora (Can.) ; Saskatoon (Can.) ; Princeton (Can.) ; Blissville (Can.) ; Porquis (Can.) ; Lower Post (Can.).
293		329	Belgrade, Mont. ; Hartford, Conn. ; Charleston, S. C. ; Ardmore, Okla.
296	Drummond, Mont. ; Tulsa, Okla. ; Rivers (Can.).	332	Cascade Locks, Ore. ; Cassoday, Kansas ; Castle Rock, Wash. ; Houston, Texas ; Key West, Fla. ; Portland, Ore. ; Palmdale, Calif. ; Washington, D. C. ; Wichita, Kansas ; Medicine Hat (Can.) ; Sorel (Can.) ; Nakina (Can.) ; Ft. Nelson (Can.).
299		335	Cincinnati, Ohio ; Milroy, Ind. ; Warsaw, Ky. ; Sacramento, Calif. ; Oliver (Can.) ; Ottawa (Can.).
302	Locomotive Springs, Utah ; Pueblo, Colo ; Ft. Leavenworth (Army) Battleford.	338	New Orleans, La. ; Rockford, Ill. ; Salt Lake City, Utah ; Tucson, Ariz. ; Martinsburg, Pa.

Fréquence	Stations	Fréquence	Stations
	(Texas); Hager City (Wisconsin); Indianapolis (Indiana); Jefferson (Georgie); Lafayette (Indiana); Minneapolis (Minnesota); Winslow (Arizona); Golva (Dakota septentrional); Livermore (Californie); Edmonton (Canada); Kapuskasing (Canada).	304	Nashville (Tennessee); Monteagle (Tennessee).
269	Ephrata (Washington); Indio (Californie); Connellsville (Pennsylvanie) (Département de la Guerre).	305	
272	Burley (Idaho); King Hill (Idaho); Little Rock (Arkansas); Miami (Floride); Pulaski (Vancouver); Sterling (Illinois); Strevell (Idaho); March Field (Armée); Duncan Field S. A. (Texas) (Armée); Randolph Field (Texas) (Armée); Putnam (Connecticut); Reay (Canada); Slave Lake (Canada).	308	Dickinson (Dakota septentrional); Missoula (Montana); Anton Chico (Nouveau-Mexique).
275		311	
278	Alexandria (Minnesota); Ashfork (Arizona); Effingham (Illinois); El Morro (Nouveau-Mexique); Grand Forks (Dakota septentrional); Greenwood (Mississippi); Guadalupe Pass (Texas); Kirksville (Missouri); Lone Rock (Wisconsin); Navasota (Texas); Neosho (Missouri); Pocatello (Idaho); Tucumcari (Nouveau-Mexique); Tylertown (Mississippi); Laramie (Wyoming); Mormon Mesa (Nevada); Mt. Shasta (Californie); Needles (Californie); Rochester (New-York); Utica (New-York); Grand Rapids (Michigan); Lafayette (Indiana); Tyler (Texas).	314	Moran (Kansas); Sidney (Nébraska); Malad (Idaho); Maple Creek (Canada) (sera remplacé par Medicine Hat (Canada)); Swift Current (Saskatchewan, Canada).
281	Calgary (Canada).	317	Peace River (Canada); Advana (Missouri); Lynchburg (Vancouver); Gt. Falls (Montana).
284	Big Springs (Nébraska); Cozad (Nébraska); Louisville (Kentucky); North Platte (Nébraska); Columbus (Nouveau-Mexique); Whitehall (Montana).	320	Adair (Iowa); Allentown (Pennsylvanie); Cœur d'Alene (Idaho); Goshen (Indiana); Helmer (Indiana); Martins Creek (Pennsylvanie); Mc Cool (Indiana); Milford (Utah); Miles City (Montana); Omaha (Nébraska); Texarkana (Arkansas); Sioux Lookout (Canada).
287		323	
290	Granger (Wyoming); Otto (Nouveau-Mexique); Rock Springs (Wyoming); Chesterfield (Tennessee); Regina (Canada); Grand Forks (Canada).	326	Big Spring (Texas); Burlington (Iowa); Cheyenne (Wyoming); Jarvis (Ontario, Canada); Morse (Illinois); Phoenix (Arizona); Williams (Californie); Potrero Hill (Californie); Pensacola (Marine); Mitchell Field (Armée); Kenora (Canada); Saskatoon (Canada); Princeton (Canada); Blissville (Canada); Porquis (Canada); Lower Post (Canada).
293		329	Belgrade (Montana); Hartford (Connecticut); Charleston (Caroline du Sud); Ardmore (Oklahoma).
296	Drummond (Montana); Tulsa (Oklahoma); Rivers (Canada).	332	Cascade Locks (Oregon); Cassoday (Kansas); Castle Rock (Washington); Houston (Texas); Key West (Floride); Portland (Oregon); Palmdale (Californie); Washington (district de Colombie); Wichita (Kansas); Medicine Hat (Canada); Sorel (Canada); Nakina (Canada); Ft. Nelson (Canada).
299		335	Cincinnati (Ohio); Milroy (Indiana); Warsaw (Kentucky); Sacramento (Californie); Oliver (Canada); Ottawa (Canada).
302	Locomotive Springs (Utah); Pueblo (Colorado); Ft. Leavenworth (Armée) Battleford.	338	Nouvelle-Orléans (Louisiane); Rockford (Illinois); Salt Lake City (Utah); Tucson (Arizona); Martinsburg (Pennsylvanie).

Frequency	Stations	Frequency	Stations
341	Adairsville, Ga. ; Arlington, Ore. ; Chattanooga, Tenn. ; Dallas, Texas ; Elizabeth, N. J. ; La Grande, Ore. ; Monteagle, Tenn. ; Pendleton, Ore. ; Santa Ana, Calif.		Greensboro, N. C. ; New Hackensack, N. Y. ; Palmdale, Calif. ; Santo, Texas ; So. Boston, Va. ; Spokane, Wash. ; Rantoul, Ill. (Army).
344	Brookville, Pa. ; Cleveland, Ohio ; Fresno, Calif. ; Jacksonville, Fla. ; Jamestown, N. D. ; Medicine Bow, Wyo. ; Spring Bluff, Mo. ; Vickery, Ohio ; Warren, Ohio ; Kelly Field, Texas (Army).	368	Aberdeen, Md. ; Smith's Grove, Ky. ; Akron, Col. ; Toronto (Can.).
347	Gordonsville, Va. ; Billings, Mont. ; North Bay (Can.).	371	Buffalo Valley, Nev. ; Dunkirk, N. Y. ; Erie, Pa. ; Hager City, Wis. ; LaCrosse, Wis. ; Helena, Mont. ; Memphis, Tenn. ; Perry, Ohio ; Acomita, N. M.
350	Ardmore, Okla. ; Boise, Idaho ; Chicago, Ill. ; King Hill, Idaho ; Kingman, Ariz. ; Lafayette, Ind. ; Morse, Ill. ; Oklahoma City, Okla. ; Raleigh, N. C. ; Syracuse, N. Y. ; Weiser, Idaho.	379	Columbia, Mo. ; New Florence, Mo. ; Denver, Col. ; Wright Field (Army) Dillon, Mont.
353		382	Knight, Wyo.
356	Morse, Ill.	385	Blue Canyon, Calif. ; Easton, Wash. ; Ellensburg, Wash. ; Elmira, N. Y. ; Peoria, Ill. ; Waco, Texas ; Donner Summit, Calif. ; Macon, Ga.
359	Archbold, Ohio (to go to 278) ; Buckstown, Pa. (will be moved to Somerset) ; Idaho Falls, Idaho ; Kansas City, Mo. ; Knoxville, Mo.	388	Dubois, Idaho ; Bolling Field (Army), March Field (Army), Selfridge Field, (Army), Smithville, Tenn. ; Enders, Neb.
362	Akron, Ohio ; Tintic, Utah ; Red Bluff, Calif. ; Megantic (Can.).	391	Beowawe, Nev. ; Cambridge, Ohio ; Columbus, Ohio ; Elko, Nev. ; Hayesville, Ohio ; Humboldt, Nev. ; Lebo, Kansas ; Ventosa, Nev.
365	Albany, N. Y. ; Ardmore, Okla. ; Charlotte, N. C. ; Columbiaville, N. Y. ; Daggett, Calif. ; Fargo, N. D. ; Ft. Worth, Texas ; Gainesville, Texas ;	394	

NOTE :

Frequencies not yet selected for the following stations :

Sudbury (Can.).	Walla Walla, Washington.
Sault St. Mary (Can.).	Deer Lodge, Montana.
Prescott (Can.).	Bloomington, Illinois.
Belleville (Can.).	Springfield, Mass.
Ft. Myer, Florida.	Salem, Oregon.
Lewiston, Montana.	Kalamazoo, Michigan.
Gardner, Kansas.	Lincoln, Nebraska.
Victoria, Va.	Ponca City, Oklahoma.
Saltillo, Texas.	Flint, Michigan.
Brinkley, Arkansas.	Big Timber, Montana.
Arkadelphia, Arkansas.	Madison, Wisconsin.
Monroe, Louisiana.	Mountain Home, Idaho.
St. Joseph, Missouri.	Twin Falls, Idaho.

Ventosa, Nevada.
 St. Peter, Minnesota.
 West Union, Ohio.
 Sutton, W. Va.
 Petersburg, W. Va.
 Crowley, La.
 Eldorado, Oklahoma.
 Barnett, Georgia.
 Glens Falls, New York.
 Rouses Point, New York.
 Everett, Washington.
 Wagon Mound, New Mexico.
 Lodge Grass, Montana.
 Upham, Texas.
 Conrad, Montana.
 Siam, California.
 Coldwater, Michigan.
 Sioux City, Iowa.
 Jackson, Minnesota.
 Huntington, W. Va.
 Charleston, W. Va.
 Elkin, W. Va.
 Front Royal, W. Va.
 Beaumont, Texas.
 Lake Charles, La.
 Baton Rouge, La.
 Claredon, Texas.
 Wichita Falls, Texas.
 Madison, Georgia.
 Augusta Georgia.
 Ticonderoga, New York.
 Burlington, Vermont.
 Bellingham, Washington.

Santa Fe, New Mexico.
 Trinidad, Colorado.
 Las Vegas, New Mexico.
 Sheridan, Wyoming.
 Buffalo, Wyoming.
 Casper, Wyoming.
 Douglas, Wyoming.
 Carancahua, Texas.
 Socorro, New Mexico.
 Sioux Falls, South Dakota.
 Huron, South Dakota.
 Aberdeen, South Dakota.
 Bischof, North Dakota.
 Ft. Wayne, Indiana.
 Sweet Grass.
 York, Pennsylvania.
 Williamsport, Pa.
 Olean, New York.
 Scotts Bluff, South Dakota.
 Hot Springs, South Dakota.
 Philip, South Dakota.
 Pierre, South Dakota.
 Brookings, South Dakota.
 Redwood Falls.
 Parkersburg, W. Va.
 South Rim, Arizona.
 Pierces Ferry, Utah.
 Death Valley, Calif.
 Independence, Calif.
 Millinocket, Maine.
 Houlton, Maine.
 Caribou, Maine.
 Stockville, Nebraska.

CANADIAN LEGATION.

No. 38.

SIR,

II.

WASHINGTON, *February 20th*, 1939.

I have the honour to acknowledge the receipt of your note of February 20th, 1939, in which you communicated to me the terms of a Canadian-United States Regional Arrangement governing the Use of Radio for Civil Aeronautical Services, as understood by you to have been agreed to in the negotiations, now terminated, between the Government of Canada and the Government of the United States of America.

2. The terms of this Arrangement which you have communicated to me are as follows :

CANADIAN-UNITED STATES REGIONAL ARRANGEMENT
 GOVERNING THE USE OF RADIO FOR CIVIL AERONAUTICAL SERVICES.

Article I. — SCOPE.

The present Arrangement between Canada and the United States concerns primarily the radio communication service of civil aeronautics and civil air navigation services. Except for Article XIII, the subject matter of this Arrangement is confined to the frequencies 200-400 kc. and above

30,000 kc. Services other than civil aeronautical which may incidentally be involved from the standpoint of interference to and by the civil aeronautical radio services are treated in Article XVII. Nothing in this Arrangement shall be construed as lessening in any manner or to any degree the rights enjoyed by the national defense services of either country.

Article II. — APPLICATION.

Nothing in the present Arrangement shall contravene the pertinent portions of the International Telecommunication Convention, Madrid, 1932; the Radio Regulations annexed thereto to which the Parties to this Arrangement have subscribed; the Inter-American Radio Communications Convention, Habana, 1937, and the Inter-American Arrangement on Radio Communications, Habana, 1937, or such documents as may supplant them as a result of subsequent conferences.

Article III. — STANDARDIZATION.

In order that international flying may be facilitated, the standardization and use of aeronautical radio facilities are provided for in this Arrangement. Appendix I lists the standard classes of aeronautical radio aids approved for service operation.

Article IV. — GEOGRAPHICAL SPACING OF AERONAUTICAL STATIONS.

In accordance with the general principles governing the economical use of the available channels, assignments shall be duplicated with a minimum practicable geographical separation between stations as determined by permissible ratio of interfering signal to desired signal, characteristics of the frequencies in use, and the areas of operation of the stations concerned.

Article V. — SHARING OF CHANNELS.

The principle of the sharing of frequencies which are made available for aeronautical services by international convention is fully recognized, particularly, however, with respect to those allocated to such services by the Inter-American Arrangement concerning Radio Communications, Habana, 1937. Recognition is given, however, to the priority of existing services as set forth in Article XVII and Appendix IV. In general, assignments to a new station shall be treated as an individual problem to be solved by engineering methods.

Article VI. — FIELD INTENSITY.

In order that radio interference beyond the service area may be reduced to a minimum, radiated power should ordinarily be adjusted to a value consistent with a normal required field intensity within the prescribed area in which it is desired to render service.

BAND 200-400 KC.

Article VII. — GEOGRAPHICAL SPACING.

In the case of radio range stations in the band 200-400 kc., the geographical spacing of the stations shall be not less than that prescribed in the curve shown in Appendix II. For powers other than four hundred watts, the distances shown in Appendix II shall be modified accordingly.

Article VIII. — STANDARDIZATION OF QUADRANT SIGNALS.

For uniformity and for purpose of course orientation, the characteristic "N" shall be utilized in the quadrant through which the true north line passes, except when the northerly course is true

north, in which case the characteristic signal "N" should be in the northwest and southeast quadrants. The "A" signal should always fall in the quadrants adjacent to those occupied by the "N" signal.

Article IX. — IDENTIFICATION SIGNALS.

The identification signal employed to identify individual radio range stations shall consist of two letters and shall be assigned without duplication. Where practicable, the signal used to establish the identity of radio facilities at any particular point should correspond to the designator for weather reports from the same station.

Article X. — SPACING AND ASSIGNMENT OF CHANNELS.

The channel spacing for radio range transmitters in the band 200-400 kc. shall be 3 kc. and the radio range channels shall be as set out in Appendix IV.

The frequency assignments to the radio range stations in Canada and the United States shall be set out as in Appendix V.

BAND ABOVE 30,000 KC.

Article XI. — DEVELOPMENT IN COMMUNICATION.

It is recognized that many services of aeronautics may be accommodated in the band above 30,000 kc. It is further recognized that the use of such frequencies for aviation purposes is still on an experimental basis.

The Parties accordingly agree to cooperate in the development of the use of this ultra high frequency band so that frequencies of the same order may be used for similar purposes throughout Canada and the United States and that the table shown in Appendix III shall be used as a guide when making assignments in this band for aeronautical use.

Article XII. — ULTRA HIGH CALLING AND WORKING FREQUENCY.

If and when ultra high frequencies come into use for aeronautical purposes, 141,780 kc. shall be designated as a calling and working frequency from plane to ground.

GENERAL PROVISIONS.

Article XIII. — NORMAL CALLING AND WORKING FREQUENCIES.

It is agreed that Canada and the United States will use 3,105 kc. as the international calling and working frequency for use by itinerant aircraft and for emergency use by transport aircraft. 6,210 kc. will also be used for secondary purposes as a calling and working frequency, available to itinerant and other aircraft by arrangement, when the circumstances are such as to make the use of 3,105 kc. unsuitable.

Article XIV. — SPECIFIC ALLOCATION OF AIRPORT CONTROL FREQUENCY.

The frequency 278 kc. will continue to be used as an airport control frequency with the expectation that after January 1st, 1939, no new assignments to airport control stations on this frequency will be made unless there is installed for simultaneous use facilities for operation on frequencies between 129 and 132 megacycles. It is further proposed that the use of 278 kc. for airport control purposes may be discontinued after January 1st, 1940, and replaced by frequencies between 129 and 132 megacycles.

Article XV. — EXCHANGE OF INFORMATION.

Information pertaining to civil aeronautics including frequency assignments, power, location of stations, identification signals and course orientation shall be exchanged directly between the administrative agencies of the two Parties.

Article XVI. — INFRINGEMENTS.

The Parties undertake to inform each other concerning any infringement of the provisions of this Arrangement in order to facilitate corrective action.

Article XVII. — SERVICES OTHER THAN CIVIL AERONAUTICAL.

(a) *National Defense.* This Arrangement recognizes the paramount requirements of national defense as established by Article 39 of the International Telecommunication Convention, Madrid, 1932, and by such national legislation in harmony therewith as has been or may in future be enacted.

(b) *Marine Radiobeacons* are recognized as operating in Canada and the United States in the band 285-315 kc. as provided in the Madrid Telecommunication Convention and the General Radio Regulations annexed thereto. The use for aeronautical purposes of these frequencies or immediately adjacent frequencies shall be restricted to locations and powers which will not cause interference with marine radiobeacons along the seacoasts and on the Great Lakes.

(c) *Marine Direction-Finding Service* is recognized as operating in Canada and the United States in the band 365-385 kc. as provided in the Madrid Telecommunication Convention and the General Radio Regulations annexed thereto. The use for aeronautical purposes of these frequencies or immediately adjacent frequencies shall be restricted to locations and powers which will not cause interference with marine radio direction-finding services.

(d) *Marine Communication Services* are recognized as operating in Canada and the United States on certain frequencies between 385 and 400 kc. as provided in the Madrid Telecommunication Convention and the General Radio Regulations annexed thereto. The use for aeronautical purposes of these frequencies or immediately adjacent frequencies shall be restricted to locations and powers which will not cause interference with marine communication services.

CONCLUSION.

Article XVIII. — ABROGATION.

It is mutually agreed that all existing informal undertakings between the Parties or the administrative agencies thereof with respect to radio allocations to aeronautical services provided for herein are hereby superseded and become inoperative upon the effective date of this Arrangement regardless of any contrary provisions for denunciation which may appear in such existing agreements.

Article XIX. — EFFECTIVE DATE.

The effective date of this Arrangement shall be established at the time of the exchange of notes effectuating it.

Article XX. — AMENDMENT.

The Appendices to the present Arrangement, but not the Arrangement itself, may be amended by mutual agreement of the authorized agencies of the Parties hereto.

Article XXI. — DENUNCIATION.

The present Arrangement shall be subject to termination by either Government upon sixty days' notice given in writing to the other Government.

3. I also acknowledge the receipt of the enclosures to your note under reference consisting of the Appendices to the proposed Arrangement which under the terms of Article XX thereof may be amended by mutual agreement of the authorized agencies of the Parties thereto.

4. I am instructed to state that the terms of the Arrangement as communicated to me are agreed to by my Government. I am further instructed to inform you that my Government concurs in your suggestion that the Arrangement become effective as of the date of this Exchange of Notes and will accordingly regard it as becoming effective on that date.

I have the honour to be with the highest consideration, Sir, your most obedient humble servant,

Herbert M. MARLER.

The Honourable Cordell Hull,
Secretary of State of the United States,
Washington, D. C.

Certified to be a true and complete textual copy of the original Arrangement in the sole language in which it was signed.

For the Secretary of State
of the United States of America :

Edward Yardley,
Director of Personnel.
