

51

EXCHANGE OF NOTES

(February 20, 1939)

REGARDING

THE USE OF RADIO FOR CIVIL  
AERONAUTICAL SERVICES

BETWEEN

CANADA

AND THE

UNITED STATES OF AMERICA

IN FORCE FEBRUARY 20, 1939



OTTAWA

EDMOND CLOUTIER

PRINTER TO THE KING'S MOST EXCELLENT MAJESTY

1940

32 756 171

b 162975x



EXCHANGE OF NOTES (FEBRUARY 20, 1939) REGARDING THE  
USE OF RADIO FOR CIVIL AERONAUTICAL SERVICES BETWEEN  
CANADA AND THE UNITED STATES OF AMERICA.

*The Secretary of State of the United States of America to the Canadian  
Minister at Washington*

DEPARTMENT OF STATE

WASHINGTON, February 20, 1939.

SIR,—I have the honour 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 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 k.c., 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 co-operate 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 3105 kc. as the international calling and working frequency for use by itinerant aircraft and for emergency use by transport aircraft. 6210 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 3105 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 1, 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 1, 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 Defence.*—This arrangement recognizes the paramount requirements of national defence 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, etc.,

*For the Secretary of State:*

G. S. MESSERSMITH

[Enclosures]

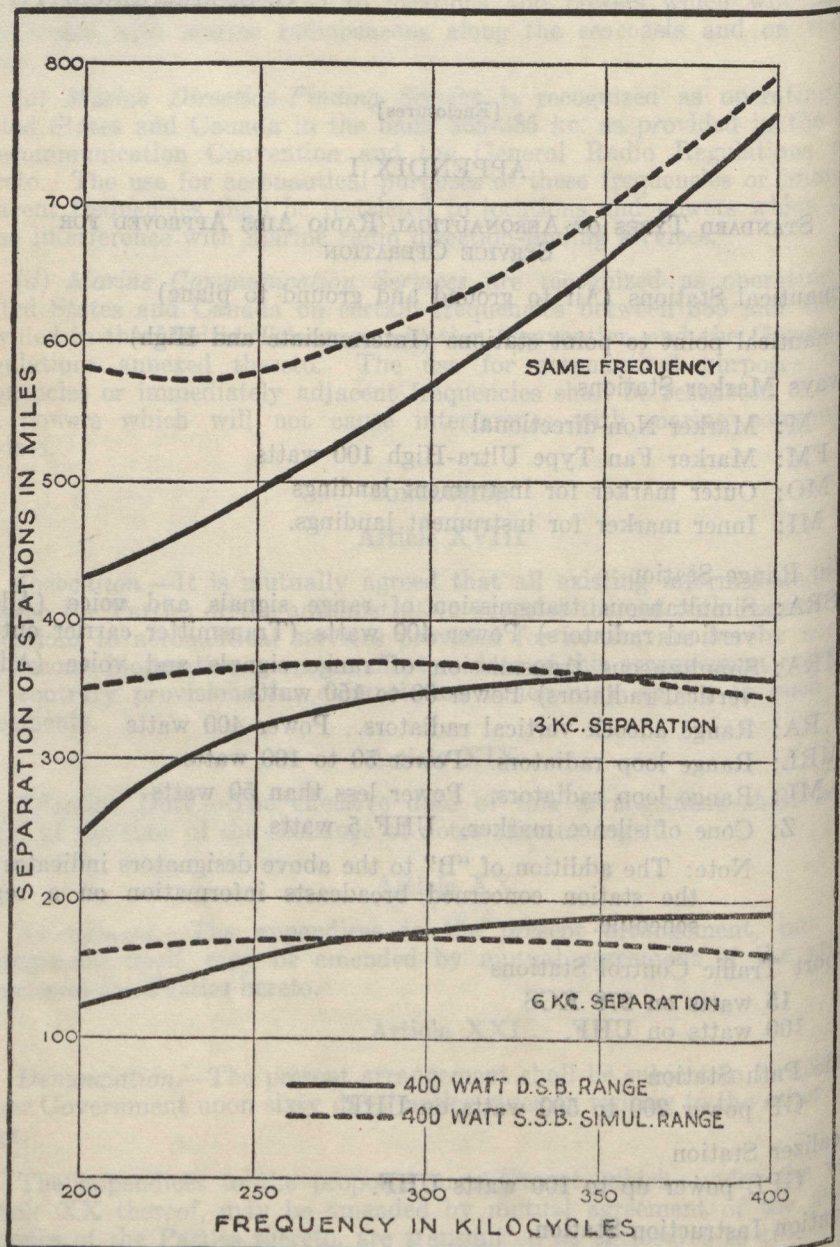
## APPENDIX I

### 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



Frequency  
in k  
33,420  
35,580  
37,860  
39,060  
60,18  
26  
42  
58  
66  
82  
98  
61,00  
22  
38  
46  
62  
78  
86  
62,00  
18  
20  
4  
5  
6  
8  
9  
63,0  
2  
3  
4  
7  
8  
64,0  
1  
2  
4  
6  
8  
65,



## 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)	380	Radiotelephone and radio- teletype; ground to aircraft
35,580	Aviation	460	"
37,860	Aviation	620	"
39,060	Aviation	65,780	Marine and radiotelephone and radioteletype; ground to aircraft
60,180	Radiotelephone and radio- teletype ground to aircraft.	860	"
260	"	74,600	Guard
420	"	680	Guard
580	"	760	Guard
660	"	840	Guard
820	"	920	Guard
980	"	75,000	Aviation markers
61,060	"	080	Guard
220	"	160	Guard
380	"	240	Guard
460	"	320	Guard
620	"	400	Guard
780	"	93,500	Instrument Landing Glide Path
860	"	900	"
62,020	"	94,300	"
180	"	109,500	Instrument Landing Lat- eral Guidance (Localiz- ers)
260	"	900	"
420	"	110,300	"
580	"	123,100	Airway Radio Range
660	"	200	"
820	"	300	"
980	"	400	"
63,060	"	500	"
220	"	600	"
380	"	700	"
460	"	800	"
620	"	900	"
780	"	124,000	"
860	"	100	"
64,020	"	200	"
180	"	300	"
260	"	400	"
420	"	500	"
580	"	600	"
660	"	700	"
820	"	800	"
980	"	900	"
65,060	"	600	"
220	"	700	"

Frequency in kc	Type of Service	Frequency in kc	Type of Service
800	Airway Radio Range	127,000*	Airway Radio Range
900	"	100*	"
125,000	"	129,300	Airport Traffic Control
100	"	129,780	"
200	"	130,300	"
300	"	130,860	"
400	"	131,420	"
500	"	131,840	"
600	"		
700	"	132,120	Aviation
800	"	133,940	"
900	"	135,200	"
126,000*	"	136,320	"
100*	"	137,020	"
200*	"	138,280	"
300*	"	138,980	"
400*	"	139,820	"
500*	"	140,520	"
600*	"	141,220	"
700*	"		
800*	"	141,780	Aviation U.S. & Canada
900*	"		Calling and Working.

\*The national defence 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)	245	Not to be used within 800 miles of sea coast. (B) (E)
203	(C)	248	None
206	Not to be used by the U.S. within 450 miles of Ed- monton. (D)	251	(A)
209	(A)	254	None
212	(A)	257	(A)
215	Not to be used within 800 miles of sea coast. (B) (E)	260	None
218	(A) (C)	263	None
221	(A) (C)	266	None
224	(A)	269	(A)
227	(A)	272	(A)
230	None	275	Not to be used within 800 miles of sea coast. (A) (B) (E)
233	None	278	None
236	None	281	Not to be used within 200 miles of sea coast or Great Lakes.
239	None	284	Not to be used within 400 miles of sea coast or Great Lakes.
242	None		

<i>Frequencies</i>	<i>Restrictions</i>	<i>Frequencies</i>	<i>Restrictions</i>
287	Not to be used within 600 miles of sea coast or Great Lakes.	353	Not to be used within 500 miles of sea coast. (E)
290	"	356	Not to be used within 800 miles of sea coast. (B) (E)
293	"	359	Not to be used within 200 miles of sea coast.
296	"	362	None
299	"	365	Not to be used within 60 miles of sea coast. (B)
302	"	368	Not to be used within 400 miles of sea coast. (B)
305	"	371	Not to be used within 700 miles of sea coast. (B)
308	"	374	Not to be used within 1,000 miles of sea coast. (B)
311	"	376	Not to be used within 1,000 miles of sea coast. (B)
314	"	379	Not to be used within 700 miles of sea coast. (B)
317	Not to be used within 400 miles of sea coast or Great Lakes.	382	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.	385	Not to be used within 60 miles of sea coast. (B)
323	Not to be used within 800 miles of sea coast. (B) (E)	388	Not to be used within 400 miles of sea coast. (B)
326	None	391	Not to be used within 400 miles of sea coast. (B)
329	None	394	Not to be used within 700 miles of sea coast. (B) (C)
332	None		
335	None		
338	None		
341	None		
344	(A)		
347	None		
350	None		

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 14, 1938.

<i>Frequency</i>	<i>Stations</i>	<i>Frequency</i>	<i>Stations</i>
200	(Army) Maxwell Field, Ala.	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.)
203			
206	Les Vegas, Nev.; Mullan Pass, Idaho; Portland, Maine; Roanoke, Va.; Abilene, Texas; Roseburg, Ore.; Tampa, Fla.; Lansing, Mich.; Brownsville, Tex.	236	Vero Beach, Fla.; McCool, Ind.; Oakland, Calif.; (When simultaneous is installed)
209	McConnellsburg, Pa.; New Florence, Mo.; St. Louis, Mo.; Saugus, Calif.; Wynoka, Okla.; Parco, Wyo.; Stampede Pass, Wash.; New Hackensack, N.Y.; Lac LaBiche (Can.)	239	Bangor, Maine; Chehalis, Wash.; Florence, S.C.; Meridian, Miss.; Montague, Calif.; Bakersfield, Cal.; Springfield, Ill.; Toledo, O.
212	Adair, Iowa; Des Moines, Iowa; Mercer, Pa.; Montezuma, 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.)		
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.)		
227	Enterprise, Utah; Langley Field, Va.; Creston (Can.), Killaloe (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.)	251	Blythe, Calif.; Concord, N.H.; Eugene, Ore.
		254	Cambridge, Ohio; Humboldt, Nev.; Pittsburgh, Pa.; Reno, Nev.; Rodeo, N.M.; San Antonio, Texas; Springfield, Mo.; Superior, Mont.; Titusville, Fla.; Halifax (Can.)

Frequency	Stations	Frequency	Stations
257	Floyd Bennett, N.Y.; Knoxville, Tenn.; Joliet, Ill.; Baltimore, Md.; Earleton (Can.).		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.
260	Buffalo, N.Y.; Cherokee, Wyo.; Cozad, Neb.; Easton, Wash.; Jackson, Miss.; Los Angeles, Calif.; Ocean-side, Calif.; Palmdale, Calif.; Richmond, Va.; Seattle, Wash.; South Boston, Va.; Wink, Texas; Grand Island; Nebraska; Pembina, N.D.; New Glasgow (Can.).	281	Calgary (Can.).
263	Boston, Mass.; Medford, Ore.; Putnam, Conn.; Sexton Summit, Ore.; Scottfield, Ill. (Army); Galveston, Texas; Grantsville, Utah.	284	Big Springs, Neb.; Cozad, Neb.; Louisville, Ky.; North Platte, Neb.; Columbus, N.M.; Whitehall, Mont.
266	Adairsville, Ga.; Anderson, S.C.; Atlanta, Ga.; Camden, N.J.; Canadian, Texas; Hager City, Wis.; Indianapolis, Ind.; Jefferson, Ga.; Lafayette, Ind.; Minneapolis, Minn.; Winslow, Ariz.; Golva, N.D.; Livermore, Calif.; Edmonton (Can.); K a p u s k a s i n g (Can.).	287	
269	Ephrata, Wash.; Indio, Calif.; Connellsville, Pa. (War Dept.).	290	Granger, Wyo.; Otto, N.M.; Rock Springs, Wyo.; Chesterfield, Tenn.; Regina (Can.); Grand Forks (Can.).
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.).	293	
275	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.;	296	Drummond, Mont.; Tulsa, Okla.; Rivers (Can.).
278		299	
		302	Locomotive Springs, Utah; Pueblo, Colo.; Ft. Leavenworth (Army) Battleford.
		304	Nashville, Tenn.; Monteagle, Tenn.
		305	
		308	Dickinson, N.D.; Missoula, Mont.; Anton Chico, N.M.
		311	
		314	Moran, Kansas; Sidney, Neb.; Malad, Idaho; Maple Creek (Can.); (to be replaced by Medicine Hat (Can.)); Swift Current, Sask. (Can.).
		317	Peace River (Can.); Advana, Mo.; Lynchburg, Va.; Gt. Falls, 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.).
		323	
		326	Big Spring, Texas; Burlington, Iowa; Cheyenne, Wyo.; Jarvis, Ont. (Can.); Morse, Ill.; Phoenix, Ariz.; Williams, Calif.; Potrero Hill, Calif.;

<i>Frequency</i>	<i>Stations</i>	<i>Frequency</i>	<i>Stations</i>
	Pensacola (Navy); Mitchell Field (Army); Kenora (Can.); Saskatoon (Can.); Princeton (Can.); Blissville (Can.); Porquis (Can.); Lower Post (Can.).	359	Archbold, Ohio (to go to 278); Buckstown, Pa., (will be moved to Somerset); Idaho Falls, Idaho; Kansas City, Mo.; Knoxville, Mo.
329	Belgrade, Mont.; Hartford, Conn.; Charleston, S. C.; Ardmore, Okla.	362	Akron, Ohio; Tintic, Utah; Red Bluff, Calif.; Megantie (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.); Nankina (Can.); Ft. Nelson (Can.).	365	Albany, N.Y.; Ardmore, Okla.; Charlotte, N.C.; Columbiaville, N. Y.; Dagget, Calif.; Fargo, N.D.; Ft. Worth, Texas; Gainesville, Texas; Greensboro, N.C.; New Hackensack, N.Y.; Palmdale, Calif.; Santo, Texas; So. Boston, Va.; Spokane, Wash.; Rantoul, Ill. (Army).
335	Cincinnati, Ohio; Milroy, Ind.; Warsaw, Ky.; Sacramento, Calif.; Oliver (Can.); Ottawa (Can.).	368	Aberdeen, Md.; Smith's Grove, Ky.; Akron, Col.; Toronto (Can.).
338	New Orleans, La.; Rockford, Ill.; Salt Lake City, Utah; Tucson, Ariz; Martinsburg, Pa.	371	Buffalo Valley, Nev.; Dunkirk, N.Y.; Erie, Pa.; Hager City, Wis.; LaCrosse, Wis.; Helena, Mont.; Memphis, Tenn.; Perry, Ohio; Acomita, N.M.
341	Adairsville, Ga.; Arlington, Ore.; Chattanooga, Tenn.; Dallas, Texas; Elizabeth, N.J.; La Grande, Ore.; Monteagle, Tenn.; Pendleton, Ore.; Santa Ana, Calif.	379	Columbia, Mo.; New Florence, Mo.; Denver, Col.; Wright Field (Army) Dillon, Mont.
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)	382	Knight, Wyo.
347	Gordonsville, Va.; Billings, Mont.; North Bay (Can.).	385	Blue Canyon, Calif.; Easton, Wash.; Ellensburg, Wash.; Elmira, N.Y.; Peoria, Ill.; Waco, Texas; Donner Summit, Calif.; Macon, Ga.
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.	388	Dubois, Idaho; Bolling Field (Army), March Field (Army), Selfridge Field (Army), Smithville, Tenn.; Enders, Neb.
353	Morse, Ill.	391	Beowawe, Nev.; Cambridge, Ohio; Columbus, Ohio; Elko, Nev.; Hayesville, Ohio; Humboldt, Nev.; Lebo, Kansas; Ventosa, Nev.
356		394	

## Note:

## FREQUENCIES NOT YET SELECTED FOR THE FOLLOWING STATIONS:

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

*The Canadian Minister at Washington to the Secretary of State of the  
 . United States of America.*

No. 38

CANADIAN LEGATION, WASHINGTON, Feb. 20, 1939.

SIR:

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 defence 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 co-operate 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 3105 kc. as the international calling and working

frequency for use by itinerant aircraft and for emergency use by transport aircraft. 6210 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 3105 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 1, 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 1, 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

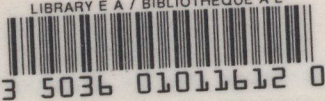
*Services Other Than Civil Aeronautical.*—

(a) *National Defence.*—This arrangement recognizes the paramount requirements of national defence 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, etc.,

HERBERT M. MARLER