CANADA

DEPARTMENT OF COMMUNICATIONS

OTTAWA

REPORT ON THE CONTINUING DEVELOPMENT AND AUTOMATION OF FREQUENCY ASSIGNMENT AND REGISTRATION PROCEDURES

TELECOMMUNICATIONS REGULATION BRANCH

OCTOBER 1, 1969

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I Meetings and Discussions

BTRP - (Allocations and Allotment Standards)

A number of meetings were held with Messrs. Brooks, Roberts, Lee Chong, Baillie and Devey concerning their requirements insofar as the domestic frequency data base is concerned. It was decided that in addition to common data such as call signs, station name, geographical co-ordinates etc. BTRP would also have an interest in other areas and their requirements should be considered in all our plans for the following fields:

a) Circuit Length
b) Technical Category
c) Field Strength
d) Conductivity
e) Antenna, radiator height, amsl
f) E(1)RP
g) Median received level
h) Antenna pattern code
i) Elevation angle
j) Channel capacity
k) Reciprocal frequency serial number
l) Miscellaneous losses
m) Equipment type

It was also decided that the BTRE data file would no longer be necessary once our proposed new data base was updated and operational.

The assembly of technical information for eventual inclusions in the data base and the form in which it would be presented was also discussed and decisions made in accordance with BTRP requirements.

BTRL - Radio Licencing

Discussions were held with Mr. Ryan and Mr. Scott concerning various topics of mutual interest such as the compiling of technical details for licences and subsequently the data base. It was accepted that the licence application form would have to accommodate the information requirements of the data base as well as the actual radio station licence. It was also agreed that the present frequency referral form could possibly be replaced by a new form presently being designed and called "Licence and frequency requisition form" which would be much more comprehensive than the former.

BTRM - Radio Regulations Services

We spoke with Messrs. Lott, Fortier, Sharpe, and Goodman regarding matters relating to the design and requisition of new forms as well as the cancellation of those to be replaced. It was recognized that the service presently given us by the Queen's Printer is somewhat less than satisfactory and attempts made to improve the service did not prove successful and therefore it was decided that a new approach to this problem was necessary.

The relative costs of various methods of reproducing the frequency lists were discussed.

Transportation requirements in connection with the conversion project was arranged through BTRM.

CSSP - Computer Systems (Programming)

Numerous talks with Messrs. De Lint, Roberts, Habets, Burrell and Cadieux were held concerning conversion to and maintenance of the new data base.

Earlier discussions revolved around problems related to specifications which we considered necessary for the conversion and Edit/Maintenance programs.

Frequent discussions are currently taking place with regard to debugging the program and finalizing the specifications.

CSSP were consulted with respect to the format of both input and output forms.

CSP - Data Processing

On several occasions we held meetings involving Messrs. Burgess and Lavigne, Mrs. A. Melvin and Mrs. Gallant in order to draw up a design for the data input form which would both serve our purpose and facililate the key punching operation to reduce errors and the actual punching time involved.

It should be mentioned that Mr. Lavigne and Mrs. Melvin were most helpful in producing the punched cards for the geographical place name codes. As mentioned elsewhere in this report these cards number over 16,000.

OMF - Forms Co-ordinator

We worked very closely with Mr. Landriault who came up with many helpful and practical suggestions insofar as the design, printing and procurement of forms required for this operation. Mr. Landriault has a wide knowledge of forms design and associated printing machinery which proved of great benefit in this venture.

EMR - Energy Mines & Resources

During discussions on the format of the printed page layout it was decided that a place name code would be an advantage since fewer spaces would be required to enter the information. As a result of this decision it was necessary to establish standard place name spellings which we accomplished by adopting EMR's "Gazeteer of Canada" as our standard. Additionally we called upon EMR to provide provincial geographical boundaries in order to reduce the possibility of inserting erroneous co-ordinates for a station located within a given province.

Messrs. Touchette, Stevenson, Hodgenson and Leduc of EMR were very helpful in providing the desired information.

BTRI - Enforcement

Mr. Stark was consulted with regard to the security aspect of the DND frequency lists. As a result of these consultations it was agreed that the DND runs would br produced on forms similar to the civil lists with the proviso that the word "SECRET" be printed a number of times in a line at both the top and the bottom of each page. Additionally it was agreed that should the ZEROX 2400 Mark IV copier be utilized for the production of additional copies of DND frequency runs then these runs would be printed on pink paper to draw attention to the classified nature of the documents.

BTRF - Frequency Assignment

Apart from the meetings mentioned elsewhere involving staff of BTRF numerous meetings were held within the sub-section which related to the determination of the format of the new data base and establishing the field requirement to provide for the technical data. Additionally a good deal of time was spent on determining the conversion and edit/maintenance data specifications on a field by field basis.

Once it was decided that data space would be at a premium a coding system was adopted wherever possible. In this regard a set of abbreviation rules were adopted which permitted geographical place names irrespective of length, to be reduced to a maximum of eight character spaces, which involved the manual coding of all place names and variations of their spelling appearing in the present Frequency List. This operation required a concentrated effort resulting in a total of approximately 16,000 punched cards of which approximately 4,000 represented misspelled place names.

In addition to reducing the space requirement this operation in itself has contributed a great deal toward improving the overall system. (See Appendix I for Abbreviation Rules)

Internal BTRF meetings were also held with the various groups of BTRF-VHF, HF, DND, Frequency Recording and Notification in order to establish common terminology insofar as it would affect the listing of frequency assignments in both the Domestic and International Frequency Lists. Decisions in this area were mainly related to:

1. Class of Station
2. Nature of Service
3. Types of Emission
4. Bandwidth
5. Power related to specific emission

A code was established whereby it may easily be determined with which administration and under which procedure co-ordination with that administration took place. This code will be used in the selection of assignments to be included in the border runs which are sent to the United States as provided in the Canada-U.S. co-ordination agreement.

It is also intended that this code will be utilized when completion of Frequency Assignment Notifications is automated.

Examination of our source documents for technical data revealed many shortcomings insofar as the reliability of information appearing on some of the licence application forms. In our effort to improve this situation a letter was written, after consultation with BTRL, which was forwarded to all regional offices pointing out areas which could stand improvement along with recommendations for some. (For additional information see letter to Regions attached as Appendix II).

The staff of BTRF have continually been investigating new procedures, methods, equipment, etc. in an endeavour to reduce costs and yet provide a more efficient and useful operation. In this regard we have examined equipment which will facilitate the reproduction of frequency lists from a single copy computer listing on plain paper. (Zerox 2400 LV) Efforts are presently being made to acquire this equipment. Additionally we have looked into the possibility of improving the method of entering data on the master tape file. (Viatron System 21).

II COMPARISON OF THE NEW DATA BASE FORMAT WITH THE OLD

a) NEW MASTER FILE FORMAT

Position	Contents	No. of Positions
1	Record ID	1
2-7	Serial Number	6
8	Check Digit	1
9	Suffix	1
10-18	Assigned Frequency	9
19-24	Date Assigned	6
25-30	Call Sign	6
31-38	TX-Station Name	8
39	Province	1
40-41	Province Sort Code	2
42	Region	1
43-44	Lat. Degrees	2
45-46	Lat. Minutes	2
47-48	Lat. Seconds	2
49-51	Long. Degrees	3
52-53	Long. Minutes	2
54-55	Long. Seconds	2
56-61	Company Code	6
62-70	Necessary Bandwidth and Type of Emission	9
71	Coord Code	1
72	PBL	1
73	ITU	1
74-82	Reciprocal Frequency	9
83-87	Circuit Length	5
88	Technical Category	1
89-94	Field-Strength	6
95-102	Reception Point	8
103-104	Conductivity	2
105-109	Azimuth	5
110-112	DB Gain	3
113	Polarization	1
114-118	Radiator Height AMSL	5
119-123	Site Elevation AMSL	5
124-127	TX-MF-PW-Output	4
128-131	Hours in Use	4
132-135	Class and Nature	4
136-140		5
141-143	No. of Mobile Units	3
144-147	DB Power	4
148-152	Median RCV Level	5
153-156	Width of Main Lobe	4
157-160	Pattern Code	4
161-165	Elevation Length	5
166-172	Channel Capacity	7
173-180	Reciprocal Serial Number	8
181-182	Misc. Losses	2
183-192	Equipment Type	10
193-197	Notice Number	5
198-201	CRT Hours in Use	4
202-212	Other Frequency	11
213-223	Supp. Information	11

Position	Contents	No. of Positions
224-229	Notified DTE in Use	6
230-239	Navigation Aids ATC	10
240-289	Licensee Name	50
290-314	TX Point Description	25
315-339	Reception Point Description	25
340	Edit Status	1
341-343	Maintenance Status	3
344-346	Book Number	3
347-350	Filler	4

b) PREVIOUS CIVIL FORMAT

Columns	Contents	No. Cols.
1-7	Seq. Code	7
8-13	Company Code	6
14-22	Assigned Freq.	9
23-28	Date in Service	6
29-35	Call Sign	7
36-52	Name of station	17
53	Province	1
54	Region	1
55-56	Lat. degrees	2
57-58	Lat. minutes	2
59-61	Long. degrees	3
62-63	Long. minutes	2
64-79	Transmitting to (PBL also in here)	16
80	Card no. 1	1
81-87	Seq. code = 1-7	7
88-93	Company Code = 8-13	6
94-100	Transmitting to call sign (Recip. freq.)	7
101	DØT No. (Co-ordination code)	1
102	L/P & V/H (Polarization)	1
103-109	Power in KW(E suffix, convert DBW; E(I)RP)	7
110-115	Class & nature	6
116-118	Station Name	3
119-127	Bandwidth & Type emission	9
128-132	Std. Industrial code (SIC)	5
133	Prov. = 53	1
134	Reg = 54	1
135-136	Lat. degrees=55-56	2
137-138	Lat. minutes = 57-58	2
139-141	Long. Degrees	3
142-143	Long. minutes	2
144-145	Lat. seconds	2
146-147	Long. seconds	2
148-151	Hours in use	4
152-154	Azimuth	3
155-156	Gain in DB	2
157	EMØ	1
158-159	Blank	2
160	Card No. 2	1

c) PREVIOUS DND FORMAT

Columns	Contents
1-7	Seq. code
8-13	Company code
14-22	Assigned Freq.
23-28	Date in service
29-35	Call Sign
36-52	Name of station
53	Province
54	Region
55-56	Lat. degrees
57-58	Lat. minutes
59-61	Long. degrees
62-63	Long. minutes
64-79	Transmitting to
80	Card no. 1
81-87	Seg. code
88-90	Page code
91-93	not used
94-102	Bandwidth and type of emission
103-109	Power in KW same as Domestic
110-115	Class nature
116-118	not used
119	DØT code (co-ord. code)
120	L/P & V/H (Pol)
121-123	Azimuth
124-125	Gain in Db
126-129	Hours in use
130-132	Length of circuit
133-143	not used
144-145	Lat.seconds (same as domestic)
146-147	Long.seconds (same as domestic)
148	EMØ code
149-159	Remarks
160	(card no. 2)

III CONVERSION SPECIFICATIONS

1.0 BACKGROUND

As the first phase of the new RFL system, it is necessary to convert the present DND and RFL files to a standard format. The report prepared by J.F. Burt of EDP Associates dated August 1, 1968 outlined the advantages of a single format. In order to start writing a program to convert the present files to the new format it is necessary to finalize the conversion instructions.

2.0 PURPOSE

The purpose of this document is to outline the conversion instructions. The specifications following are only concerned with the conversion of the files. The specifications for the new file maintenance program and report programs will be covered later. It is suggested that the specifications be reviewed carefully to make any necessary corrections and/or additions.

3.0 FORMAT OF SPECIFICATION

Item	Content
Name of few field	This is the name of the new field as contained in the Frequency Reporting Form.
Location on source document	This indicates the location of the field on the new frequency reporting form.
Position on new master file	This indicates the positions on the new master file. It will also show the field name. (Program DATA NAME) (A record layout is attached)
CONVERSION	This section will outline the conversion instructions for each file. (i.e. Kilo, Mega and DND). The Field indicates what field is used in the conversion (ie. of RFL and DND format of files). The conversion instructions are stated. (Format of the old files are attached)

4.0 RECORD LAYOUT

Attached is a record layout of the new file. Note that 33 positions have been left blank for the addition of new fields if future requirements indicate any additions.

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5.0 PROCESSING

Each file will be converted separately since there are differences for each file. For each conversion an error report will be printed. This report will contain two items of information.

STATION NAME DESCRIPTION: If while searching the station name table to arrive at the corresponding alpha code and correct description the description from the OLD RFL files was not found, the description will be printed.

The assigning of the licencee name will be carried out by a separate program because of the large volume of company codes. The error report will be similar to the error report for the conversion except the company codes on the converted master files that had no corresponding match in the company code file will be printed (same format at conversion error report).

If after converting all three files (DND, Mega and Kilo) the number of table errors is small the Mega and Kilo files will be merged to create one file. The missing information of alpha place name code and/or company description (licence name) can be "inputed" via a change on the new frequency reporting form. If however, the number of errors is large the tables will be corrected and the conversion recycled.

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NO 019 | SYSTEMS NAME RFL File Conversion

Name of New Field:

Location on Source Card: Card: Pos.:

Position on New Master File: 1 (Record-Id)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo	-	-	3 : For Kilo file
Mega	-	-	4 : For Mega file
Dnd	-	-	5 : For Dnd file

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P. NO.	SYSTEMS NAME	DATE EFFECTIVE
19	RFL File Conversion	1 Sept 1969

Name of New Field: Serial-Number

Location on Source Card: Card: 1 Pos.: 1 - 8

Position on New Master File: 2 - 9 (Serial Number)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo	-	-	First six positions assigned in following range 000001 to 299,999. 7th position check digit. The last position is suffix. Assign same serial number for same call sign and coordinates, but change suffix starting at A---Z. Then 0.9 when call sign and coordinates blank assign different serial number for each record.
Mega	-	-	As above but starting at 300,000 to 899,999.
Dnd	-	-	As above except serial number assigned starting at 900,000 for all records whose sequence number start with K and 950,001 to 999,799. For all records whose sequence number start with M.

* Check Digit Calculation

Serial Number:	132,465
Odd Position	126
Even Position	345
Product	43470
Sum 4+3+4+7+0	= 18
Check Digit	8

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O.	SYSTEMS NAME	DATE EFFECTIVE
9	RFL File Conversion	1 Sept . 1969

Name of New Field: Assigned - Frequency

Location on Source Card: Card: 1 Pos.: 10 - 18

Position on New Master File: 10 - 18 (Assigned - Frequency)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo	Assigned Freq	14-22	Move Only - 1
Mega	Assigned Freq	14-22	"
Dnd	Assigned Freq	14-22	"

Period justified and blank the last position drop first position.

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APP. NO. 019 | SYSTEMS NAME RFL File Conversion

Name of New Field: Date Assigned

Location on Source Card: Card: 1 Pos.: 19 - 24

Position on New Master File: 19 - 24 (Date Assigned)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo	Date in service	23-28	Move only
Mega	"	"	
Dnd	"	"	

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NO. 019 | SYSTEMS NAME RFL File Conversion

Name of New Field: Call Sign

Location on Source Card: Card: 1 Pos.: 25 - 30

Position on New Master File: 25 - 30 (Call-Sign)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo	Call Sign	29-35	Left justify in field then Truncate
Mega	"	"	" "
Dnd	"	"	" "

- Where "mobile" appears check class & nature
  if "ML" - delete "mobile"
  if no "ML" - kick out - error

- Anything not A/N - get rid of it and close fld & then truncate.

Move the first 6 positions only.

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P. NO.	SYSTEMS NAME	DATE EFFECTIVE
19	RFL File Conversion	1 Sept 1969

Name of New Field: Name of TX station

Location on Source Card: Card: 1 Pos.: 31 - 38

Position on New Master File: 31 - 38 (TX-station-name-code)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	Name of Station or Province	36-52 & 53	- If "PBL" shows anywhere in field blank out. Then perform table look up in invalid-valid place names to find corresponding alpha code. Move alpha code to Position 31-38 in output record - If "Portable" shows anywhere infield use province field and convert to an alpha code using following conversion table.1)

If Province is		Move To new field
	C	'ALL CAN'
	B	'BC'
	A	'ALTA'
	S	'SASK'
	M	'MAN'
	Ø	'ONT'
	Q	'QUE'
	K	'NB'
	V	'NS'
	P	'PEI'
	F	'NFLD'
	T	'NWT'
	Y	'YT'
	L	'NFLD'

1) If it cannot be found in table print error message. Move spaces to TX-station -name-code.

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019	RFL File Conversion	1 Sept 1969

Name of New Field: Prov.

Location on Source Card: Card:1 Pos.: 39

Position on New Master File: 39 (Province)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo	Province	53	Move only
Mega	"	53	"
Dnd	"	53	"

Convert. L - F

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019	RFL File Conversion	1 Sept 1969

Name of New Field: Prov-Sort-Code

Location on Source Card: Card: - Pos.: -

Position on New Master File: 40-41 (Prov-Sort-Code)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo	Province	53	Convert Province code to a sort-code to permit sorting from west to east. The conversion table is below.

If province is	Have	to Prov-Sort-Code
C	01	
B	02	
A	03	
S	04	
M	05	
Ø	06	
Q	07	
K	08	
V	09	
P	10	
F	11	
T	13	
Y	14	
L	11	

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)19	RFL File Conversion	1 Sept 1969

Name of New Field: Reg.

Location on Source Card: Card: 1 Pos.: 40

Position on New Master File: 42 (Region)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo	Region	54	Move Only
Mega	-	-	-
Dnd	-	-	-

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PP. NO. 019 | SYSTEMS NAME RFL File Conversion

Name of New Field: Geographic Latitude

Location on Source Card: Card: 1 Pos.: 41-46

Position on New Master File: 43-48 (Geo-Latitude)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo	Lat Degrees	55-56	Moved to Positions 43-44 1)
	Lat Minutes	57-58	" " " 45-46 1)
Mega	Lat Seconds	144-145	" " " 47-48 1)
Dnd	Lat Degrees	55-56	Moved to Positions 43-44 1)
	Lat Minutes	57-58	" " " 45-46 1)
	Lat Seconds	144-145	" " " 47-48 1)

1) Change all alpha ø to zero prior to move.

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NO.	SYSTEMS NAME	DATE EFFECTIVE
)19	RFL File Conversion	1 Sept 1969

Name of New Field: Geographic co-ordinates longitude

Location on Source Card: Card: 1 Pos.: 47-53

Position on New Master File: 49-55 (Geo-Longitude)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo	Long degrees	59-61	Moved to Positions 49-51 1)
Mega	Long Minutes	62-63	" " " 52-53 1)
Dnd	Long Seconds	146-147	" " " 54-55 1)

1) Convert alpha Ø to zero prior to move

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019	RFL File Conversion	1 Sept 1969.

Name of New Field: Company Code

Location on Source Card: Card: 1 Pos.: 54-59

Position on New Master File: 56-61 (Company-Code)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega	Company Code	88-93	Move Only
Dnd	Company Code	8-13	"

88-93 = 8-13 same comp code

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PP. NO. 019 | SYSTEMS NAME RFL File Conversion

Name of New Field: Necessary bandwith and type of emission

Location on Source Card: Card: 1 Pos.: 60-68

Position on New Master File: 62-70 (Bw-and-type-of-Em)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega	Bandwith & Type of Emmission	119-127	Move only
Dnd	Bandwith & Type of Emmission	94-102	Move only
	In Range 30.0 - 50.0 MHz 138.0 - 174.0 " 450.0 - 470.0 "		
	Change 20F3 - 16F3 40F3 - 36F3		

PP. NO.	SYSTEMS NAME
019	RFL File Conversion

Name of New Field: Co-ord Code

Location on Source Card: Card: 1 Pos.: 69

Position on New Master File: 71 (Coord-Code)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo	-	-	Spaces moved to new field
Mega and Dnd			-straight transfer to the new field (DOT.NO)

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19	RFL File Conversion	1 Sept 1969

Name of New Field: PBL

Location on Source Card: Card: 1 Pos.: 70

Position on New Master File: 72 (PBL)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	Name of Station	36-52	If 'PBL' shows anywhere to field move 'P' to PBL (newfield). If 'PORTABLE' shows anywhere in field move 'P' to (New field)

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019	RFL File Conversion	1 Sept 1969

Name of New Field: ITU

Location on Source Card: Card: 1 Pos.: 71

Position on New Master File: 73 (ITU)

Conversion:

File	Field	Pos.	Conversion Instruction
DND Kilo Mega	-	-	Move spaces to new field

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19	RFL File Conversion	1 Sept 1969

Name of New Field: Reciprocal Frequency

Location on Source Card: Card: 2 Pos.: 10-18

Position on New Master File: 74-82 (Recip-Freq)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega	Transmitting to Callsign	95-100	Line up decimals where shown in numeric No decimal - left justify transfer anyway & then print error if blank - move spaces & no error printed
Dnd	-	-	Move spaces to field

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019	RFL File Conversion	1 Sept 1969

Name of New Field: Circuit Length

Location on Source Card: Card: 2 Pos.: 19-23

Position on New Master File: 83-87 (Circuit-Length)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega	-	-	Move spaces to new field
Dnd		130-132	Move right justified

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O. 9 | SYSTEMS NAME: RFL File Conversion

Name of New Field: Tech Cat

Location on Source Card: Card: 2 Pos.: 24

Position on New Master File: 88 (Tech-Category)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

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APP. NO. 019 | SYSTEMS NAME RFL File Conversion

Name of New Field: Field Strength

Location on Source Card: Card: 2 Pos.: 25-30

Position on New Master File: 89-94

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

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P. NO. 019 | SYSTEMS NAME RFL File Conversion

Name of New Field: Reception Points

Location on Source Card: Card: 2 Pos.: 31-38

Position on New Master File: 95-102 (Reception-Point)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	Transmitting to	64-79	Drop lst 3 characters then test for PBL in field. If PBL exists blank out PBL. Then perform table look up in invalid-valid place names to find corresponding alpha code move alpha code to position 31-38 in output record. Except not applicable to following frequency bands for which data is moved to "NAV AIDS function" (Positions 230-239). 74.6 - 75.4 MHz 108.0 - 121.975 " 122.2 " 123.3 " 123.575 - 128.825 " 132.025 - 136.0 " 1300.0 - 1350.0 " 2700.0 - 2900.000 " 9000.0 - 9200.000 "

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PP.	SYSTEMS NAME	DATE EFFECTIVE
019	RFL File Conversion	1 Sept 1969

Name of New Field: Conductivity

Location on Source Card: Card: 2 Pos.: 39-40

Position on New Master File: 103-104 (Conductivity)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo	-	-	Move spaces to new field
Mega			
Dnd			

DEPAI ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

DATE EFFECTIVE 1 Sept 1969

NO 019 | SYSTEMS NAME RFL File Conversion

Name of New Field: Azimuth

Location on Source Card: Card: 2 Pos.: 41-45

Position on New Master File: 105-109 (Azimuth)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega	Azimuth	152-154	Move to positions 105-107 of new field (last two pos spaces)
Dnd	Azimuth	121-123	" "

NO. 19 | SYSTEMS NAME: RFL File Conversion

Name of New Field: Db-gain

Location on Source Card: Card: 2 Pos.: 46-48

Position on New Master File: 110-112 (db-gain)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega	Gain in Db	155-156	Move to positions 110-111 of new field (space in last positions)
Dnd	Gain in Db	124-125	Move to positions 110-111 of new field

Kilo & Mega

Move 155 - 110
Move 156 - 111
Move sp - 112

Dnd

Move 124 - 110
Move 125 - 111
Move sp - 112

DEPA IENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

NO.	SYSTEMS NAME	DATE EFFECTIVE
119	RFL File Conversion	1 Sept 1969

Name of New Field: Pol.

Location on Source Card: Card: 2 Pos.: 49

Position on New Master File: 113 (polarization)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega	L/P & V/H	102	Convert Using Following Table Value in old Field → new value H, 4, 6 → 1 V, 3, 5 → 2 7, 8 → 3 others → blank
Dnd	L/P & V/H	120	As above

DEPA. ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

NO.	SYSTEMS NAME	DATE EFFECTIVE
9	RFL File Conversion	1 Sept 1969

Name of New Field: Radiator height amsl

Location on Source Card: Card: 2 Pos.: 50-54

Position on New Master File: 114-118 (Radiator-Height-AMSL)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

DEPA ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

DATE EFFECTIVE 1 Sept 1969

NO.	SYSTEMS NAME
019	RFL File Conversion

Name of New Field: Site Elevation AMSL

Location on Source Card: Card: 2 Pos.: 55-59

Position on New Master File: 119-123 (Site-Elev-AMSL)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

DEPA .ENT OF TRANSPORT

GENERAL PURPOSE FORM

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DATE EFFECTIVE 1 Sept 1969

NO. :9 | SYSTEMS NAME: RFL File Conversion

Name of New Field: TX RF PWR output

Location on Source Card: Card: 2 Pos.: 60-63

Position on New Master File: 124-127 (TX-RF-PW-Output)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	Power in Kw	103-109	If suffix 'M' or 'MGW' multiply by 1000 and go to A. If 'E' suffix appears anywhere in field move spaces to new field. If no 'E' suffix appears-drop any non numeric prefix or suffix (not e) and convert using following. Procedure A first multiply by 1000 to convert to watts then use following table.

Conversion

Power Kw	(1)(2)(3)(4)
.0001	0.1
1	1
.0009	0.9
.0010	1.0
1	1
.0999	99.9
.1000	100
1	1
.9999	999
1.0000	K 1
1.0001	K 1
1	1
1.0009	K 1
1	1
1.9999	K1.9
1	1
9.9999	K9.9
10.0000	K 10
1	1
.9999	K999
1 MGW	M 1
1.5MGW	M1.5
99.9MGW	M 99
999 MGW	M999
1 M	M 1

1 MGW	M 1
2.5 MGW	M2.5
0.25 M	M0.2
2.00MGW	M 2
2.10MGW	M2.1
2.01MGW	M 2

68-0117

DEPAR ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

DATE EFFECTIVE 1 Sept 1969

NO. 9

SYSTEMS NAME RFL File Conversion

Name of New Field: Hours in use

Location on Source Card: Card: 2 Pos.: 64-67

Position on New Master File: 128-131 (HRS-IN-USE)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega	Hours in use	148-151	Move only
Dnd	Hours in use	126-129	Move only

DEPAR .NT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

P. NO	SYSTEMS NAME	DATE EFFECTIVE
219	RFL File Conversion	1 Sept 1969

Name of New Field: Class and nature

Location on Source Card: Card: 2 Pos.: 68-71

Position on New Master File: 132-135 (Class-and-nature)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	Class and nature	110-115	- If all positions in old field not spaces move last 4 positions from old field to new field. - If only 1st two spaces and last two spaces are non blank move 1st two spaces from old field and last two spaces from old field to make up a new field. - If only last 4 spaces are non blank move last four positions to new field. - For all other cases move spaces to new field. - Where 'FL' or 'PL' appear change to 'FX' and place a 'P' in PBL fld. - Where 'FR' appears in cols 110/111 or 112/113 carry out following: 1/ Remove 'name of station' (36-52 old file), place in hidden info cols 290-314, new file. 2/ Place letter 'R' in col 31 new file. 3/ Convert FR to FX and place in appropriate cols, left just. 132-3.

DEPAR ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

P. NO.	SYSTEMS NAME	DATE EFFECTIVE
19	RFL File Conversion	1 Sept 1969

Name of New Field: Standard Industrial Code

Location on Source Card: Card: 3 Pos.: 10-14

Position on New Master File: 136-140 (Standard-Industrial-Code)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega	Std Industrial Code	128-132	Move Spaces to new field
Dnd	-	-	Move spaces to new field

S.I.C. not used

DEPA. ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

NO.	SYSTEMS NAME	DATE EFFECTIVE
9	RFL File Conversion	1 Sept 1969.

Name of New Field: No of mobile units

Location on Source Card: Card: 3 Pos.: 15-17

Position on New Master File: 141-143 (No-of-Mob-Units)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	Transmitting	64-79	If last one, two three positions of old field are numeric. Move to new field (right justified)

DEPA .ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

PP. NO	SYSTEMS NAME	DATE EFFECTIVE
019	RFL File Conversion	1 Sept 1969.

Name of New Field: E(I)RP

Location on Source Card: Card: 3 Pos.: 18-21

Position on New Master File: 144-147 (DB-Power)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	103-109	Power in Kw (Picture 999.9999)	- If E suffix appears anywhere infield convert using the following formula (after dropping E) 10 $\log_{10}$(old field) 10 in watts * (This will be done by using a fortran Sub-Program) - If no E suffix appears move spaces to new field.

* Multiply old field by 1000 to convert to watts

- Align decimals

DEPAI ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

PP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	RFL File Conversion	1 Sept 1969.

Name of New Field: Median received level

Location on Source Card: Card: 3 Pos.: 22-26

Position on New Master File: 148-152 (Median-Rcv-Level)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo	-	-	Move spaces to new field
Mega	-	-	
Dnd	-	-	

DEPA .ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

NO.	SYSTEMS NAME	DATE EFFECTIVE
19	RFL File Conversion	1 Sept 1969

Name of New Field: Width of Main Lobe

Location on Source Card: Card: 3 Pos.: 27-30

Position on New Master File: 153-156 (width-main-lobe)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

DEPA. ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	RFL File Conversion	1 Sept 1969

Name of New Field: Pattern Code

Location on Source Card: Card: 3 Pos.: 31-34

Position on New Master File: 157-160 (Pattern Code)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

DEPA ENT OF TRANSPORT

GENERAL PURPOSE FORM

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DATE EFFECTIVE 1 Sept 1969

NO.	SYSTEMS NAME
29	RFL File Conversion

Name of New Field: Elevation angle

Location on Source Card: Card: 3 Pos.: 35-39

Position on New Master File: 161-165

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

DEPA ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

NO.	SYSTEMS NAME	DATE EFFECTIVE
9	RFL File Conversion	1 Sept 1969.

Name of New Field: Channel Capacity

Location on Source Card: Card: 3 Pos.: 40-46

Position on New Master File: 166-172

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

DEPA ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

P. NO.	SYSTEMS NAME	DATE EFFECTIVE
19	RFL File Conversion	1 Sept 1969

Name of New Field: Reciprocal Serial Number

Location on Source Card: Card: 3 Pos.: 47-54

Position on New Master File: 173-180 (Recip Serial No)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dad	-	-	Move spaces to new field

DEPA ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

SYS. NO.	SYSTEMS NAME	DATE EFFECTIVE
19	RFL File Conversion	1 Sept 1969.

Name of New Field: Misc. Losses

Location on Source Card: Card: 3 Pos.: 54-56

Position on New Master File: 181-182 (Misc.-Losses)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

DEPA ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

IP. NO	SYSTEMS NAME	DATE EFFECTIVE
019	RFL File Conversion	1 Sept 1969.

Name of New Field: Equipment Type

Location on Source Card: Card: 3 Pos.: 57-66

Position on New Master File: 183-192 (Equipment-Type)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

Name of New Field: Notice number

Location on Source Card: Card: 4 Pos.: 10-14

Position on New Master File: 193-197 (Notice-Number)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

DEPA ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

NO.	SYSTEMS NAME	DATE EFFECTIVE
9	RFL File Conversion	1 Sept 1969.

Name of New Field: Circuit Hrs in Use

Location on Source Card: Card: 4 Pos.: 15-18

Position on New Master File: 198-201 (Crt-Hrs-In-Use)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

DEPAR ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

NO.	SYSTEMS NAME	DATE EFFECTIVE
9	RFL File Conversion	1 Sept 1969

Name of New Field: Other Frequencies on Circuit

Location on Source Card: Card: 4 Pos.: 19-29

Position on New Master File: (Other-Freq) 202-212

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

DEPA. ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

APP. NO	SYSTEMS NAME	DATE EFFECTIVE
019	RFL File Conversion	1 Sept 1969

Name of New Field: Supplementary Information

Location on Source Card: Card: 4 Pos.: 30 - 40

Position on New Master File: 213-223 (Supp-Info)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

DEPAR NT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

P. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	RFL File Conversion	1 Sept 1969

Name of New Field: Notified Date in Use

Location on Source Card: Card: 4 Pos.: 41-46

Position on New Master File: 224-229 (Notified-Die-In-Use)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field

DEPA ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

NO.	SYSTEMS NAME	DATE EFFECTIVE
19	RFL File Conversion	1 Sept 1969.

Name of New Field: Navigation Aids/Atc: Function

Location on Source Card: Card: 4 Pos.: 47-55

Position on New Master File: 230-238 (Function)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Dnd	-	-	Move spaces to new field
Mega	Transmitting to	(64-79)	Drop first three positions. Move next 9 characters to new field.* If greater than 9 characters print diagnostic.

* Only for Following Ranges of Assigned Frequency

74.6	-	75.4	MH/z
108.0	-	121.975	"
122.2			"
123.3			"
123.575	-	128.825	"
132.025	-	136.000	"
1300.000	-	1350.000	"
2700.000	-	2900.000	"
9000.000	-	9200.000	"

DEPARTMENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

NO.	SYSTEMS NAME	DATE EFFECTIVE
29	RFL File Conversion	1 Sept 1969.

Name of New Field: Navigation AIDS/ATC: STATUS

Location on Source Card: Card: 4 Pos.: 56

Position on New Master File: 239 (Stat)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	- Pos. 1 of "TX to Call Sign" 95-100 "Assigned Freq" (14-22)	-	If assigned frequency is in ranges outlined below move pos. 95 of old file to pos. 239 of new file otherwise move spaces to field.

Frequency Range

74.6	-	75.4	MH/z
108.0	-	121.975	"
122.2	-		"
123.3			"
123.575	-	128.825	"
132.025	-	136.000	"
1300.0	-	1350.000	"
2700.0	-	2900.000	"
9000.0	-	9200.000	"

SP. NO.	SYSTEMS NAME
019	RFL File Conversion

Name of New Field: Licensee-Name

Location on Source Card: Card: - Pos.: -

Position on New Master File: 240-289 (Licensee-Name)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega	Company Code	8-3	Use Table to Convert
Dnd	"	"	Layout shown below (Note that this Provided for Information only since this will be done on a second pass of the file by a separate program

Company Code File

Pos

1-6 Company Code
7-56 Licensee Name

DEPA. ENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION X

P. NO.	SYSTEMS NAME	DATE EFFECTIVE
19	RFL File Conversion	1 Sept 1969.

Name of New Field: TX-Point-Description

Location on Source Card: Card: - Pos.: -

Position on New Master File: 290-314

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	This is the corresponding description for the name of TX station. When the table is searched for the alpha code of name of TX station the corresponding description is moved to this field. If it is not found in the table spaces are moved to the new field. (error message is also printed)

DEPAI :NT OF TRANSPORT

GENERAL PURPOSE FORM

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DATE EFFECTIVE 1 Sept 1969.

NO. 19 | SYSTEMS NAME RFL File Conversion

Name of New Field: Reception Point Description

Location on Source Card: Card: - Pos.:-

Position on New Master File: 315-339 (Reception-Point-Description)

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega End	-	-	Same as Tx-point description except this is for reception points in new field (Alpha code description)

DEPAI :NT OF TRANSPORT

GENERAL PURPOSE FORM

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REVISION X

	SYSTEMS NAME	DATE EFFECTIVE
019	RFL File Conversion	1 Sept 1969

Name of New Field: Edit-Status

Location on Source Card: Card: - Pos.: -

Position on New Master File: 340

Conversion:

File	Field	Pos.	Conversion Instruction
Kilo Mega Dnd	-	-	Move spaces to new field. This field will be used in the new system to identify the error status of the field.

R.F.L. MASTER FILE MHZ, MHZ AND DND

Position	Contents	No. of Positions
1	Record ID	1
2-7	Serial Number	6
8	Check Digit	1
9	Suffix	1
10-18	Assigned Frequency	9
19-24	Date Assigned	6
25-30	Call Sign	6
31-38	TX-Station Name	8
39	Province	1
40-41	Province Sort Code	2
42	Region	1
43-44	Lat. Degrees	2
45-46	Lat. Minutes	2
47-48	Lat. Seconds	2
49-51	Long. Degrees	3
52-53	Long. Minutes	2
54-55	Long. Seconds	2
56-61	Company Code	6
62-70	Necessary Band Width and Typw of Emission	9
71	Coord Code	1
72	PEL	1
73	ITU	1
74-82	Reciprocal Frequency	9
83-87	Circuit Length	5
88	Technical Category	1
89-94	Field-Strength	6
95-102	Reception Point	8
103-104	Conductivity	2
105-109	Azimuth	5
110-112	DE Gain	3
113	Polarization	1
114-118	Radiator Height AMSL	5
119-123	Site Elevation AMSL	5
124-127	TX-RF-PW-Output	4
128-131	Hours in Use	4
132-135	Class and Nature	4
136-140	Standard Industrial Code	5
141-143	No. of Mobile Units	3
144-147	DB Power	4
148-152	Median RCV Level	5
153-156	Width of Main Lobe	4
157-160	Pattern Code	4
161-165	Elevation Length	5
166-172	Channel Capacity	7
173-180	Reciprocal Serial #	10
181-182	Misc. Losses	2
183-192	Equipment Type	10
193-197	Notice Number	5
198-201	CRT Hours in Use	4
202-212	Other Frequency	11
213-223	Supp. Information	11
224-229	Notified DTE in Use	6
230-239	Navigation Aids ATC	10
240-289	Licensee Name	50

Position	Contents	No. of Positions
290-314	TX Point Description	25
315-339	Reception Point Description	25
340	Edit Status	1
341-343	Maintenance Status	3
344-346	Book no.	3
347-350	Filler	4

RFL Format

Columns	Contents	No. Cols.
1-7	Seq. Code	7
8-13	Company Code	6
14-22	Assigned Freq.	9
23-28	Date in Service	6
29-35	Call Sign	7
36-52	Name of station	17
53	Province	1
54	Region	1
55-56	Lat. degrees	2
57-58	Lat. minutes	2
59-61	Long. degrees	3
62-63	Long. minutes	2
64-79	Transmitting to (PBL also in here)	16
80	Card no. 1	1
81-87	Seq. code = 1-7	7
88-93	Company code = 8-13	6
94		
95-100	Transmitting to call sign (Recip.freq.)	6
101	DOT No. (Co-ordination code)	1
102	L/P & V/H (Polarization)	1
103-109	Power in KW(E suffis, convert DBW; E(I)RP	7
110-115	Class & nature	6
116-118	Station Name	3
119-127	Bandwidth & type emission	9
128-132	Std. Industrial code (SIC)	5
133	Prov. = 53	1
134	Reg = 54	1
135-136	Lat. degrees = 55-56	2
137-138	Lat. minutes = 57-58	2
139-141	Long.degrees	3
142-143	Long. minutes	2
144-145	Lat. seconds	2
146-147	Long. seconds	2
148-151	Yours in use	4
152-154	Azimuth	3
155-156	Gain in DB	2
157	EMO	1
158-159	Blank	2
160	Card No. 2	1

END FORMAT (Cols. 1-80 same as Domestic)

Columns	Contents
1-7	Seg. code
8-13	Company code
14-22	Assigned Freq.
23-28	Date in service
29-35	Call Sign
36-52	Name of station
53	Province
54	Region
55-56	Lat. degrees
57-58	Lat. minutes
59-61	Long. degrees
62-63	Long. minutes
64-79	Transmitting to
80	Card no. 1
81-87	Seg. code
88-90	Page code
91-93	not used
94-102	Bandwidth and type of emission
103-109	Power in KW same as Domestic
110-115	Class nature
116-118	not used
119	DOT code (co-ord.code)
120	L/P & V/H (Pol)
121-123	Azimuth
124-125	Gain in Db
126-129	Hours in use
130-132	Length of circuit
133-143	not used
144-145	Lat. seconds (same as domestic)
146-147	Long. seconds (same as domestic)
148	EXO code
149-159	Remarks
160	(card no. 2)

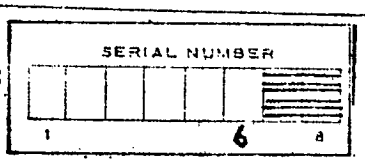
IV Edit/Maintenance Specifications (Field by Field)

GENERAL PURPOSE FORM

APP. NO.	SYSTEMS NAME	REVISION	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	3 4	July 31 1969.

FROM:

FIELD NO: A1



CARD: 1

1. [X] All positions filled or complete blank
2. [N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [X] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 2-7

EDIT SPECIFICATIONS:

Serial number reject:

- An addition(blank check digit) which is found to match an existing serial number, including suffix, when the check digit is calculated.
- A change or deletion whose serial number cannot be found on the existing RFL-Master.
- On additions. All but the first of identical serial numbers including suffixes, so no duplicates will exist on the RFL master.

An addition can have a check digit entered if the serial number already exists and just new suffixes are being added.

- major error field.

ARTMENT OF TRANSPORT

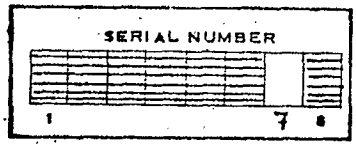
GENERAL PURPOSE FORM

ORIGINAL

REVISION 3 4

APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31,1969.

FROM: FIELD NO: A2



CARD: 1

1. [A] All positions filled or complete blank
2. [N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [ ] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [ ] Trailing zeros allowed
10. [X] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO: Ad 1. Blank if position 9 = 'A' except for an addition in an existing Serial no.

Ad 10. except for additions (The computer calculates the check digit and enters it in this field).

TO: RFL record positions: 8

EDIT SPECIFICATIONS:
Calculation of check digit:

i.e. serial number 123457

135
247 x
945
540
270
33345; 3+3+3+4+5 = 18

Check digit is '8'

ARTMENT OF TRANSPORT

GENERAL PURPOSE FORM

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APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31,1969.

FROM: FIELD NO: 3 SERIAL NUMBER 1 8 Suffix CARD: 1

1. [X] All positions filled or complete blank
2. [A] [N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are: None
   Other restrictions

3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [ ] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [ ] Trailing zeros allowed
10. [X] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO: Ad 1 must be blank for new assignment which will be the basic data line only.

TO: RFL record positions: 9
EDIT SPECIFICATIONS:

PARTMENT OF TRANSPORT

GENERAL PURPOSE FORM

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REVISION 34

APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31 1969.

FROM:

FIELD NO: C

A ☐ ADDITION
C ☐ CHANGE
D ☐ DELETION

CARD: 1

1. [X] All positions filled or complete blank
2. [A] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions
   'A','C' or 'D' only
3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [ ] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [ ] Trailing zeros allowed
10. [X] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO: Multiple transactions within one serial number and edit status:

- A: only the first will be done. The other will be printed on the maintenance list.
- C: all will be actioned.
- D: only the first will be done. If there is a 'Z' in ITU, change this character in 'D'.

TO: RFL record positions: 344

EDIT SPECIFICATIONS:

If error in any field, print number sign (#) above first column of that field and in the first position of that field in the record.

'A' is addition. See note

'C' is change or amendment.

Note: When a % sign is the first character in a field the entire field will be blanked.

'D' is delete.

If record contains a reciprocal serial number the next message is printed in the maintenance list:

'SERIAL NO .....HAS BEEN DELETED. CHECK RECORD ASSOCIATED WITH SERIAL NO ...(A)..AND FREQUENCY...(B)....'

(A)= reciprocal serial number, (B)=reciprocal frequency.

'C' and 'D' are only actioned if serial number, company code and Frequency are matched.

- major error field.

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FROM: FIELD NO: D [1] 80 CARD: 1

1. [A] All positions filled or complete blank
2. [N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [ ] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [ ] Trailing zeros allowed
10. [ ] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO: Ad 2 must be '1', '2','3' and '4' only.

TO: RFL record positions:

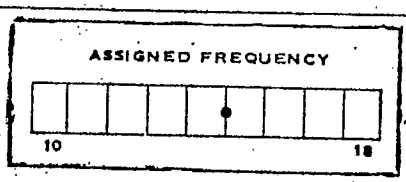
EDIT SPECIFICATIONS:

All 4 cards must be present on additions
If a card is missing (eg. invalid card no.),
Create a blank record on RFL output file
which only has the record identification,
serial no. and card no. and put a '3' in the edit
status field, position 340 of the output
RFL file.

APP. NO. 019 | SYSTEMS NAME R.F.L. EDIT/MAINTENANCE AND REPORTING

FROM: FIELD NO: 001

ASSIGNED FREQUENCY



CARD: 1

1. ☐ All positions filled or complete blank
2. [N] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions
   '%' - sign not allowed.
3. ☐ Left justified
4. ☐ Right justified
5. [X] Period justified
6. [X] Leading blanks allowed
7. ☐ Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO: Ad 1 must be filled in (part of control)

TO: RFL record positions: 10-18
EDIT SPECIFICATIONS:
- embedded blanks are not allowed
- major error field.

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FROM: FIELD NO: 002

DATE ASSIGNED (DAY | MO. | YR.) 19 24

CARD: 1

1. ☐ All positions filled or complete blank
2. [N] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. [X] Right justified within each field (day, month).
5. ☐ Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. ☐ Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts. Within each field(day, month)

MEMO:

TO: RFL record positions: 19-24

EDIT SPECIFICATIONS:

- replacement of LEADING blanks in zeros
- numeric on addition, else blank or numeric
  if numeric - yr = present year from date card or less if change
  mo = 01-12
  day = 01-30 in months 04,06,09,11
  01-28 in month 02 except leap year when 29 is OK
  01-31 in other months

- If date of the year different of control card, subtract 1 from the control card.

- major error field.

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FROM:

FIELD NO: 003

CALL SIGN (25 – 30)

CARD: 1

1. ☐ All positions filled or complete blank
2. [A][N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are: '*' (asterisks) in columns 26,27,28,29 and 30 only; not more than two asterisks allowed.
   Other restrictions
3. [X] Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. ☐ Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO: Embedded blanks are not allowed 23/1 69./

TO: RFL record positions:

EDIT SPECIFICATIONS:

- the first numeric after an alpha cannot be 0 or 1.
- minor error field.

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FROM:

FIELD NO: 004

NAME OF TX STATION (31 – 38)

CARD: 1

1. ☐ All positions filled or complete blank
2. [A][N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions
   '%' - sign not allowed.
3. [X] Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. ☐ Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 31-38 and TX Point Description 290-314.

EDIT SPECIFICATIONS:

- blank or match table of valid station codes
  - table is indexed sequential
- cannot be blank if suffix, col.8, is blank on addition
  - if error print #above first column of field
  - major error field
- if valid code assign decoded name from table, move into positions 290-314, TX point description of master output

Note: this field will not be edited when the complete master file edit option is used.

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FROM: FIELD NO: 005 PROV. 39 CARD: 1

1. [X] All positions filled or complete blank
2. [A] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [ ] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [ ] Trailing zeros allowed
10. [ ] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 39 and Province Sort Code 40-41

EDIT SPECIFICATIONS: - Blank or match valid codes

	Province sort code:
'C' - all Canada	01
'B' - B.C.	02
'A' - Alta	03
'S' - Sask.	04
'M' - Manitoba	05
'Ø' - Ontario	06
'Q' - Quebec	07
'P' - 'PEI'	10
'Y' - Yukon	14
'T' - NWT	13
'K' - N.B.	08
'V' .. N.S.	09
'F' - NFLD	11 (include Labr.)

- cannot be blank if suffix, col. 8, blank on addition
- if error print # above field
  - minor error field.
- Center Prov. sort code

Coordinates must be within limits of following table for each province code (if valid)
Only done when both province code and coordinates are available.

	NORTH	SOUTH	EAST	WEST
Newfoundland	60° 31'	46° 36'	52° 37'	67° 47'
Nova Scotia	47° 03'	43° 22'	59° 40'	66° 25'
Prince Edward Island	47° 04'	45° 56'	61° 58'	64° 25'
New Brunswick	48° 05'	44° 30'	63° 46'	69° 03'
Quebec	62° 36'	44° 59'	57° 06'	78° 47'
Ontario	56° 52'	41° 51'	74° 20'	95° 10'
Manitoba	60° 00'	48° 59'	88° 59'	102° 01'
Saskatchewan	60° 00'	48° 59'	101° 21'	110° 01'
Alberta	60° 00'	48° 59'	110° 00'	120° 01'
British Columbia	60° 00'	48° 18'	114° 03'	139° 04'
Northwest Territories	90° 00'	60° 00' (W of 95° W)	61° 18'	136° 24'
Yukon Territory	69° 39'	60° 00'	123° 47'	141° 01'
All Canada	90° 00'	41° 51'	52° 37'	141° 01'

If province code and or region code, page 11, and or geographical coordinates, page 12, change(s), these fields will be checked according to the new situation.

Blank fields on the maintenance will be copied from the master.

(Basic data line only for additions or from the master being changed when is a change).

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FROM: FIELD NO: 006 REG. 40 CARD: 1

1. [X] All positions filled or complete blank
2. [N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [ ] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [ ] Trailing zeros allowed
10. [X] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 42

EDIT SPECIFICATIONS:

- minor error field

B = 1 or 2
A = 2
S = 3
M = 3
O = 3 or 4
K = 6
V = 6
P = 6
F = 6
T = 2,3 or 5
Y = 2
Q = 5 or 6
C = ~~1 or blank~~ 1-6 or blank

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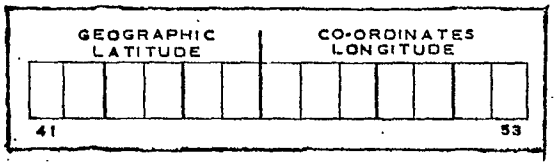
FROM: FIELD NO: 007



CARD: 1

1. ☐ All positions filled or complete blank
2. [N] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. [X] Right justified within each field
5. ☐ Period justified
6. [X] Leading blanks allowed -only position 47
7. [X] Leading zeros allowed -within each field
8. ☐ Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts. within each field (o,',")

or minutes and seconds fields.

MEMO: Ad 1 seconds could be blank/ It is not allowed to fill in zeros if the information is not available. Ad 6 leading blanks are not allowed in minutes and seconds.

TO: RFL record positions: 43-55 and book no.344-346

EDIT SPECIFICATIONS:
- blank or non-blank - go to check field 008 if blank.

Latitude: Col. 41-46
- blank or numeric
- cannot be greater than 90° 00' 00" nor less than 40° 00' 00"
  Col.43-44 in range 00 to 59
  Col.45-46 in range 00 to 59

Longitude:- Col. 47-53
- blank or numeric
- cannot be greater than 142° 00' 00" nor less than 050° 00'00"
  Col. 50-51 in range 00 to 59
  Col. 52-53 in range 00 to 59
- minor error field.

- exception - coded place name OCNSTNVP do not check coordinate blocks
- Check area coordinate blocks and assign book no. if valid

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FROM: FIELD NO: 008 COMPANY CODE (54 – 59) CARD: 1

1. [X] All positions filled ~~or complete blank~~
2. [N] [ ] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions
   '%' – sign not allowed.
3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [X] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO: Ad 1. Must be filled in (part of control)

In domestic (below serial no. 900.000):
if company code starts with a '7' in column 54 reject the entry as a major error field.

TO: RFL record positions: 56-61 and Licensee's Name 240-289

EDIT SPECIFICATIONS:

- Match table (indexed sequential table).
- Major error field
- If valid, assign company (licensee's) name into positions 240-289.
- ~~This is limited below serial # 900,000.~~

Note: this field will not be edited when the complete master file edit option is used.

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FROM: FIELD NO: 009

NECESSARY BANDWIDTH AND TYPE OF EMISSION
60 68

CARD: 1

1. ☐ All positions filled or complete blank
2. [A][N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are: .(period).
   Other restrictions
   Embedded blanks not allowed.

3. [X] Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. [X] Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 62-70

EDIT SPECIFICATIONS:

- major error field
- Cannot be blank if suffix blank.

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APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
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FROM: FIELD NO: 010 CO-ORD. CODE 69 CARD: 1

1. [X] All positions filled or complete blank
2. [A][N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [ ] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [ ] Trailing zeros allowed
10. [X] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 71

EDIT SPECIFICATIONS:

- minor error field

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FROM: FIELD NO: 011 PBL 70 CARD: 1

1. [X] All positions filled or complete blank
2. [A] [ ] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions
   Letter 'P' only.

3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [ ] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [ ] Trailing zeros allowed
10. [X] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 72
EDIT SPECIFICATIONS:

- minor error field.

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APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
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FROM: FIELD NO: 012 ITU 71 CARD: 1

1. [X] All positions filled or complete blank
2. [A] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions
   Only 'A', 'C', 'D' or 'Z' allowed.
3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [ ] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [ ] Trailing zeros allowed
10. [X] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 73

EDIT SPECIFICATIONS:

- If 'D' in column 9 (deletion) the record stays in the RFL file. The report extract program will select this record out of the RFL file. In this way it is possible to print this record on the notification forms.
- In RFL record A,C,D and Z are allowed ('Z' indicates that a notification form is printed).
- If one record contains a 'A', 'C' or 'D' in ITU, all the records with the same frequency call sign and station code and a 'Z' in ITU have to be printed on the same notification form
- Minor error field

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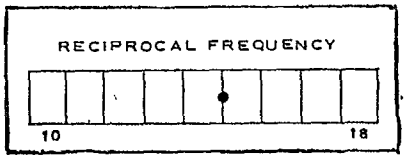
FROM:

FIELD NO: 013

RECIPROCAL FREQUENCY



CARD: 2

1. ☐ All positions filled or complete blank
2. [N] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. ☐ Right justified
5. [X] Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 74-82

EDIT SPECIFICATIONS:

- No replacement of blanks to zeros.
- Minor error field.

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FROM: FIELD NO: 014

CIRCUIT LENGTH
19 23

CARD: 2

1. ☐ All positions filled or complete blank
2. [N] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. [X] Right justified
5. ☐ Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. ☐ Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 83-87
EDIT SPECIFICATIONS:
- replace leading blanks by zeros
- minor error field.

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FROM:

FIELD NO: 015 TECH. CAT. 24

CARD: 2

1. [X] All positions filled or complete blank
2. [N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [ ] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [ ] Trailing zeros allowed
10. [X] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 88

EDIT SPECIFICATIONS:

- minor error field.

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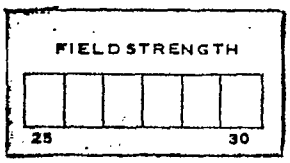
FROM: FIELD NO: 016



CARD: 2

1. ☐ All positions filled or complete blank
2. [N] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. [X] Right justified
5. ☐ Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. ☐ Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts.

MEMO:

TO: RFL record positions:
EDIT SPECIFICATIONS:

- minor error field
- replace leading blanks by zeros.

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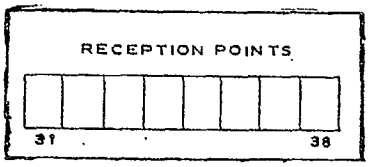
FROM: FIELD NO: 017



CARD: 2

1. ☐ All positions filled or complete blank
2. [A] [N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:'*' (asterisk) in position 31 only.
   Other restrictions

3. [X] Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. ☐ Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 95-102 and Reception Point 315-339

EDIT SPECIFICATIONS:
If '*' in column 31 no table tape check and place 'REPRESENTATIVE LOCATIONS' in positions 315-339.
- Blank or in place name table (indexed sequential table)
  - minor error
- If valid, assign decoded place name from table into positions 315-339, Reception Point description, of master output

NOTE: this field will not be edited when the complete master file edit option is used.

- minor error field.

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FROM: FIELD NO: 018 CONDUCTIVITY 39 40 CARD: 2

1. ☐ All positions filled or complete blank
2. [N] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. [X] Right justified
5. ☐ Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. ☐ Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 103-104

EDIT SPECIFICATIONS:

- replace leading blanks by zeros
- minor error field.

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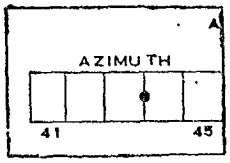
FROM: FIELD NO: 019



CARD: 2

1. ☐ All positions filled or complete blank
2. [A][N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are: '*'(asterisk) only in column 41
   Other restrictions In this case other columns must be blanks.
   If ND: Spaces in 41-43 and 'ND' in 44-45
3. ☐ Left justified
4. ☐ Right justified
5. [X] Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts.
    except the unit position

MEMO:

TO: RFL record positions: 105-109

EDIT SPECIFICATIONS:

- replace leading blanks by zeros only
- minor error field.

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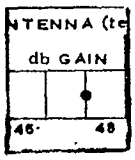
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31 1969.

FROM: FIELD NO: 020



CARD: 2

1. ☐ All positions filled or complete blank
2. [N] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. ☐ Right justified
5. [X] Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts. except the unit position.

MEMO:

TO: RFL record positions: 110-112

EDIT SPECIFICATIONS:
- replace leading blanks by zeros only.
- minor error field.

GENERAL PURPOSE FORM

APP. NO.	SYSTEMS NAME	
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	ORIGINAL REVISION 34 DATE EFFECTIVE July 31 1969.

FROM: FIELD NO: 021 Chn Acc 49 CARD: 2

1. [X] All positions filled or complete blank
2. [N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [ ] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [ ] Trailing zeros allowed
10. [X] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 113
EDIT SPECIFICATIONS:

- minor error field.

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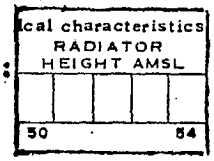
FROM: FIELD NO: 022



CARD: 2

1. ☐ All positions filled or complete blank
2. [N] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. [X] Right justified
5. ☐ Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. ☐ Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 114-118
EDIT SPECIFICATIONS:
- replace leading blanks by zeros
- minor error field.

APP. NO.	SYSTEMS NAME	
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	

FROM: FIELD NO: 023 SITE ELEVATION AMSL (55 - 59) CARD: 2

1. ☐ All positions filled or complete blank
2. [N] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. [X] Right justified
5. ☐ Period justified
6. [X] Leading blanks allowed
7. ☐ Leading zeros allowed
8. ☐ Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 119-123

EDIT SPECIFICATIONS:

- replace leading blanks by zeros
- minor error field.

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FROM: FIELD NO: 024 — TX RF PWR OUT PUT (60 - 63) — CARD: 2

1. ☐ All positions filled or complete blank
2. [A][N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are: .(period) and < (less than)
   Other restrictions
   Unit identification '<', 'K' or 'M' only, or numeric always in position 60.
   Period in position 61 or 62 only.
   Embedded blanks allowed.
3. ☐ Left justified
4. [X] Right justified
5. ☐ Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. ☐ Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 124-127

EDIT SPECIFICATIONS:

- blank or in form of <.NN
  ANNN
  AN.N
  NN.N
  NNNN
  <lll
  <001 } only in converted records.

- minor error field

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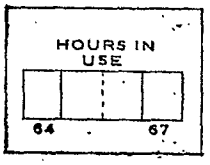
FROM: FIELD NO: 025



CARD: 2

1. ☐ All positions filled or complete blank
2. [A][N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions
   first two positions blank then 'HN', 'HJ', 'HT', 'HX' or
   first position blank then 'H24'.
3. ☐ Left justified
4. [X] Right justified
5. ☐ Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. ☐ Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 128-131

EDIT SPECIFICATIONS:

- minor error field

FROM: FIELD NO: 26 CLASS AND NATURE (68 71) CARD: 2

1. ☐ All positions filled or complete blank
2. [A] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are: none
   Other restrictions
   embedded blanks are not allowed.
   '%' - sign not allowed
3. [X] Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. ☐ Leading zeros allowed
8. [X] Trailing blanks allowed
9. ☐ Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

Class must be present on basic data line.

TO: RFL record positions: 132-135

EDIT SPECIFICATIONS:

- major error field.

The following checks apply on additions or editing the master file. The following table indicates which classes of service require coordinates.

Do Require Co-ords		Do not require co-ords	
AL*	FX*	AM	EH
AX*	LR	EX*	EK
BC*	RA	MA	EN
BT*	TC*	ML	ER
FA*	TD*	MO	
FB*	TH*	MR	
FC*	TK	MS	
FP*	TM	RM	
FR	TN	SM	
FS*	TR	EC	
AU*	SS*	ED	

The above classes having an asterisk require a call sign for the record.

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APP. NO.	SYSTEMS NAME
019	R.F.L. EDIT/MAINTENANCE AND REPORTING

FROM:

FIELD NO: 027

STANDARD INDUSTRIAL CODE (10 – 14)

CARD: 3

1. ☐ All positions filled or complete blank
2. [A] [N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are: all
   Other restrictions

3. ☐ Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. ☐ Leading zeros allowed
8. ☐ Trailing blanks allowed
9. ☐ Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 136-140

EDIT SPECIFICATIONS:

no edit

APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31, 1969.

FROM: FIELD NO: 028

NO. OF MOBILE UNITS [ ][ ][ ] 15 17

CARD: 3

1. [ ] All positions filled or complete blank
2. [N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

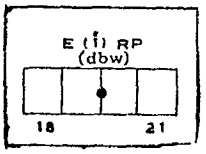
3. [ ] Left justified
4. [X] Right justified
5. [ ] Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [ ] Printed as written in this field
11. [X] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 141-143
EDIT SPECIFICATIONS:
- replace leading blanks by zeros
- minor error field.

APP. NO.	SYSTEMS NAME	
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	

FROM: FIELD NO: 029



CARD: 3

1. ☐ All positions filled or complete blank
2. [N] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. ☐ Right justified
5. [X] Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts. except the unit position.

MEMO:

TO: RFL record positions: 144-147

EDIT SPECIFICATIONS:

- replace leading blanks by zeros only.
- minor error field.

PP. NO.	SYSTEMS NAME
019	R.F.L. EDIT/MAINTENANCE AND REPORTING

FROM: FIELD NO: 030

MEDIAN RECEIVED LEVEL (dbm) 22 26

CARD: 3

1. ☐ All positions filled or complete blank
2. N ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. ☐ Right justified
5. [X] Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts.
    except the unit position

MEMO:

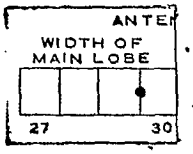
TO: RFL record positions: 148-152

EDIT SPECIFICATIONS:

- replace leading blanks by zeros only.
- minor error field.

APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31, 1969.

FROM: FIELD NO: 031



CARD: 3

1. ☐ All positions filled or complete blank
2. [N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. ☐ Right justified
5. [X] Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts.
    except the unit position

MEMO:

TO: RFL record positions: 153-160

EDIT SPECIFICATIONS:

- replace leading blanks in zeros only
- minor error field.

APP. NO.	SYSTEMS NAME	
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	

FROM: FIELD NO: 032 NA (PATTERN PATTERN CODE 31 34) CARD: 3

1. ☐ All positions filled or complete blank
2. [A][N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions
   letters A-F only (hexadecimal)

3. ☐ Left justified
4. [X] Right justified
5. ☐ Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. ☐ Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 157-160
EDIT SPECIFICATIONS:
- minor error field.

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APP. NO.	SYSTEMS NAME
019	R.F.L. EDIT/MAINTENANCE AND REPORTING

FROM:

FIELD NO: 033

DETAILS) ELEVATION ANGLE

35 39

CARD: 3

1. ☐ All positions filled or complete blank
2. [N] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are: -(hyphen in pos.35 only).
   Other restrictions

3. ☐ Left justified
4. ☐ Right justified
5. [X] Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts.
    except the unit position.

MEMO:

TO: RFL record positions: 161-165

EDIT SPECIFICATIONS:

- replace leading blanks by zeros.

- minor error field.

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ORIGINAL

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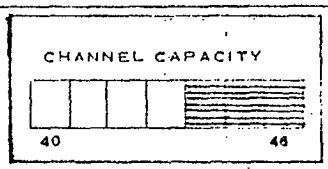
APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31, 1969.

FROM: FIELD NO: 034A



CARD: 3

1. ☐ All positions filled or complete blank
2. [N] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. [X] Right justified
5. ☐ Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. ☐ Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 166-169
EDIT SPECIFICATIONS:

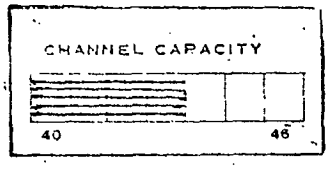
- minor error field.

L ARTMENT OF TRANSPORT

GENERAL PURPOSE FORM

APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31,1969.

FROM: FIELD NO: 034B



CARD: 3

1. ☐ All positions filled or complete blank
2. [A] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. [X] Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. ☐ Leading zeros allowed
8. [X] Trailing blanks allowed
9. ☐ Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

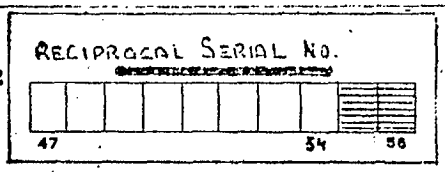
TO: RFL record positions: 170-172
EDIT SPECIFICATIONS:

- minor error field.

APP. NO.	SYSTEMS NAME	
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	

FROM:

FIELD NO: 035



CARD: 3

1. ☐ All positions filled or complete blank
2. [A] [N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions
   letters A-Z in position 54 only (suffix)
   all positions may be N.
3. [X] Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. [X] Leading zeros allowed
8. [X] Trailing blanks allowed only in 53 and 54
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 173-180

EDIT SPECIFICATIONS:

- minor error field
- calculate check digit if status field shows an 'A':
  and the position 53 is blank. The following information is printed in the maintenance list if check digit is blank:
  'Check for entry under this ..... serial number'; otherwise do normal check.

-see page 4 for deletions.

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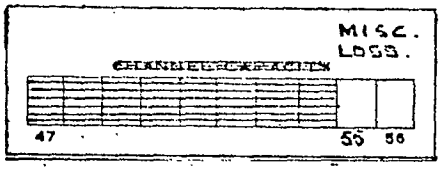
APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31,1969.

FROM: FIELD NO: 036



CARD: 3

1. ☐ All positions filled or complete blank
2. [N] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. [X] Right justified
5. ☐ Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. ☐ Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. [X] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 181-182

EDIT SPECIFICATIONS:

- minor error field
- replace leading blanks by zeros

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019	R.F.L. EDIT/MAINTENANCE AND REPORTING

FROM:

FIELD NO: 037

EQUIPMENT TYPE

57 66

CARD: 3

1. ☐ All positions filled or complete blank
2. [A][N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are: '/' slash and 'hyphen' only '-'.
   Other restrictions

3. [X] Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. [X] Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 183-192

EDIT SPECIFICATIONS:

- minor error field.

APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31,1969.

FROM:

FIELD NO: 038

NOTICE NUMBER (10 - 14)

CARD: 4

1. [X] All positions filled or complete blank
2. [N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [X] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO:
Ad 1 should be filled in if ITU shows 'A', 'C' or 'D'

TO: RFL record positions: 193-197
EDIT SPECIFICATIONS:

- minor error field.

APP. NO.	SYSTEMS NAME	
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	

FROM: FIELD NO: 039 CIRCUIT HRS IN USE (15 – 18) CARD: 4

1. ☐ All positions filled or complete blank
2. [A][N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions
   First two positions blank, than 'HJ', 'HN', 'HT', 'HX' or first position blank, then H24
3. ☐ Left justified
4. [X] Right justified
5. ☐ Period justified
6. [X] Leading blanks allowed
7. [X] Leading zeros allowed
8. ☐ Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 198-201

EDIT SPECIFICATIONS:

- minor error field

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APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31,1969.

FROM:

FIELD NO: 040

ITU
OTHER FREQUENCIES ON CIRCUIT
19 20

CARD: 4

1. ☐ All positions filled or complete blank
2. [A] ☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions
   A thru L and Z only.

3. [X] Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. ☐ Leading zeros allowed
8. [X] Trailing blanks allowed
9. ☐ Trailing zeros allowed
10. [X] Printed as written in this field, for notification form see memo.
11. ☐ Zero suppressed in printouts.

MEMO: ad 10. A is printed as ~~05~~,05
B " " " ~~07~~,07
C is printed " ~~09~~,09
D " " " 11,
E " " " 13,
F is printed as 15,
G " " " 17,
H " " " 19,
I " " " 21,
J " " " 23,
K " " " 25,
L " " " 27,
Z; all possibilities

TO: RFL record positions:
EDIT SPECIFICATIONS:
- minor error field.

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FROM: FIELD NO: 041

SUPPLEMENTARY INFORMATION
30 40

CARD: 4

1. ☐ All positions filled or complete blank
2. [A][N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are: all
   Other restrictions

3. [X] Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. [X] Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 213-223

EDIT SPECIFICATIONS:

Edit left justified.

- minor error field

APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31,1969.

FROM: FIELD NO: 042 NOTIFIED DATE IN USE (41–46) CARD: 4

1. ☐ All positions filled or complete blank
2. [N]☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. ☒ Right justified within each field
5. ☐ Period justified
6. ☒ Leading blanks allowed
7. [X] Leading zeros allowed
8. ☐ Trailing blanks allowed
9. [X] Trailing zeros allowed
10. ☐ Printed as written in this field
11. ☒ Zero suppressed in printouts within each field.

MEMO:

TO: RFL record positions: 224-229

EDIT SPECIFICATIONS:

- do date check, see field 002 page 7.
- minor error field
- if field is blank enter today's date.
- replace leading blanks to zeros within each field.

ARTMENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION 3 4

PP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31,1969.

FROM: FIELD NO: 043

NAVIGATION AIDS/ATC FUNCTION

47

CARD: 4

1. ☐ All positions filled or complete blank
2. [A][N] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are: '/'(slash) only.
   Other restrictions

3. [X] Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. [X] Leading zeros allowed
8. [X] Trailing blanks allowed
9. [X] Trailing zeros allowed
10. [X] Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 230-238

EDIT SPECIFICATIONS:

-minor error field.

ARTMENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION 3 4

APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31,1969.

FROM:

FIELD NO: 044 (START 56)

CARD: 4

1. [X] All positions filled or complete blank
2. [A] [ ] Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions
   only letters 'A', 'P' or 'I' allowed.

3. [ ] Left justified
4. [ ] Right justified
5. [ ] Period justified
6. [ ] Leading blanks allowed
7. [ ] Leading zeros allowed
8. [ ] Trailing blanks allowed
9. [ ] Trailing zeros allowed
10. [X] Printed as written in this field
11. [ ] Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 239

EDIT SPECIFICATIONS:

- minor error field.

ORIGINAL

REVISION 3

APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31,1969.

FROM: FIELD NO: E Edit Status CARD: -

1. ☐ All positions filled or complete blank
2. ☐☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. ☐ Leading zeros allowed
8. ☐ Trailing blanks allowed
9. ☐ Trailing zeros allowed
10. ☐ Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 340

EDIT SPECIFICATIONS:

0 = clean record
1 = minor error(s)
2 = major error(s)
3 = card missing replaced on uotput tape bij spaces (serial no, trans.code filled from the other cards).

ARTMENT OF TRANSPORT

GENERAL PURPOSE FORM

ORIGINAL

REVISION 34

APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31, 1969.

FROM: FIELD NO: F Maintenance Status CARD: -

1. ☐ All positions filled or complete blank
2. ☐☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. ☐ Leading zeros allowed
8. ☐ Trailing blanks allowed
9. ☐ Trailing zeros allowed
10. ☐ Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 341-343

EDIT SPECIFICATIONS:

Position 9 of card 1 to position 341
Supplement code to positions 342-343 (control card)

FROM: FIELD NO: H Filler CARD: -

1. ☐ All positions filled or complete blank
2. ☐☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. ☐ Leading zeros allowed
8. ☐ Trailing blanks allowed
9. ☐ Trailing zeros allowed
10. ☐ Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 347-350
EDIT SPECIFICATIONS:
Space filled.

PARTMENT OF TRANSPORT

GENERAL PURPOSE FORM

PAGE 53 of 53
ORIGINAL
REVISION 3 4

APP. NO.	SYSTEMS NAME	DATE EFFECTIVE
019	R.F.L. EDIT/MAINTENANCE AND REPORTING	July 31,1969.

FROM: FIELD NO: I ID CARD: -

1. ☐ All positions filled or complete blank
2. ☐☐ Alpha (A), Numeric (N) or Alphanumeric (AN)
   Special characters allowed are:
   Other restrictions

3. ☐ Left justified
4. ☐ Right justified
5. ☐ Period justified
6. ☐ Leading blanks allowed
7. ☐ Leading zeros allowed
8. ☐ Trailing blanks allowed
9. ☐ Trailing zeros allowed
10. ☐ Printed as written in this field
11. ☐ Zero suppressed in printouts.

MEMO:

TO: RFL record positions: 1

EDIT SPECIFICATIONS:

3 for kilo-file serial no. < 300,000
4 for mega-file " " < 900,000
5 for DND(K+M) " " > 899,999

V Coding

a) Geographical Place Name Code

The procedure to follow in employing the Geographical Place Name Code is outlined in Appendix I. The code enables geographical place names of up to 25 characters to be reduced to a maximum of eight characters. In the coding operation standard abbreviations are employed which are also listed in Appendix I. This code is used for both transmitting and reception points.

In order to standardize the full geographical place name decode spelling the "Gazetteer of Canada" published by the Geographical Branch of the Department of Energy, Mines and Resources has been adopted however at the present time place names for the Province of Quebec are not as yet available and until they are published the spelling used for locations in the Province of Quebec will be those appearing in the Canadian Guide, which is published by the International Railway Publishing Co. Ltd. of Montreal.

b) Co-ordination Code

The Co-ordination Code has been established to indicate that co-ordination of a specific frequency assignment has been accomplished with a foreign administration.

At the present time Canada has co-ordination agreements with the USA and Denmark (Greenland) covering selected portions of the frequency spectrum. (For details of the co-ordination agreement with the USA for frequencies above 30 Mc/s please refer to Appendix IV). The use of specific frequencies is often co-ordinated with various other administrations to ensure interference, free operations or to facilitate the resubmission of frequency assignment notifications to the International Frequency Registration Board in Geneva.

The code used for the above co-ordination is outlined as follows:

Code	Decode
A	Co-ordination with the USA under arrangement A (See Appendix IV)
B	Co-ordination with the USA under arrangement B (See Appendix IV)
C	Co-ordination with the USA under arrangement C (See Appendix IV)
D	Co-ordination with the USA under arrangement D (See Appendix IV)
E	Co-ordination with Denmark
F	Co-ordination with Denmark and USA
G	Co-ordination with USA
H	
J	
K	
L	
M	
N	
P	

(Q to Z available for future use should the requirement arise)

c) Antenna Pattern Code

A code has been established by NTRP to facilitate reference to the antenna system for any assignment listed. The bands referred to are as follows:

2	1700-2300	MHz	5	5925-6425	MHz	8	7725-8275	MHz
3	2548-2690	MHz	6	6425-7125	MHz	9	8275-8400	MHz
4	3700-4200	MHz	7	7125-7725	MHz	10	10700-11700	MHz

CODE	ANTENNA DESCRIPTION	COMPANY	BAND	GAIN
1	KS-15640	West. Elec.	4	37.6
2	KS-15676 Horn Ref.	West. Elec.	4	37.6
3	Delay Lens KS5759	West. Elec.	4	39.6
4	P10-37	Andrew	4	39.5
5	AN-48 Horn Ref.	Marelli-Lenk	4	39.0
6	KS-15924 P10	West. Elec.	4	39.6
7	P6-37	Andrew	4	35.0
8	P8R(8x12)KS15640	West. Elec.	4	35.0
9	P8R(10x15)KS15640	West. Elec.	4	39.0
A	L-7160	Ainslie	7	40.3
B	L-7108	Ainslie	7	42.6
C	L-7110	Ainslie	7	44.7
D	HCL-7110	Ainslie	7	44.6
E	HCL-7112	Ainslie	7	46.4
F				
10	12'CCIR HP dual polorized (shrouded) or 70736A	Andrew	4	40.8
11	6457 Horn Refl.	Rohr	4	39.4
12	HP10-37	Andrew	4	39.3
13	ST & C P10	Std. Telephones & Cable	4	39.5
14	ST&C 140LTL 49A P14	Std. Telephones & Cable	4	39.5
15	P6-65A(21122A)	Andrew	5	39.4
16	P6-59R(6x8)	Andrew	5	41.4
17	P6-59R(12x17)	Andrew	5	43.4
18	P6-59R(10x15)	Andrew	5	43.0
19	P6R(8x12)	Andrews	5	42.0
1A				
1B				
1C				
1D				
1E				
1F				
20	MM600-6, M135676 P10	RCA	5	43.5
21	P10(26203) with side lobe suppressors	Andrew	5	43.1
22	12'CCIR HP dual polorized(71135A)	Andrew	4	40.8
23	P3R(10x15)	Andrew	5	40.0
24	P12 (28380)	Andrew	5	44.5
25	P4-59	Andrew	5	35.2

CODE	ANTENNA DESCRIPTION	COMPANY	BAND	GAIN
26	P6-59	Andrew	5	38.7
27	AN 78-3 P8	Marelli-Lenk	4	38.4
28	HP8-59, HP8A-59, 70110A, 70126A, 75043, & 75048	Andrew	5	41.0
29	KS-15676 Horn R.	West. Elec.	5	43.1
2A				
2B				
2C				
2D				
2E				
2F				
30	P6 (MU-176)	Motorola	5	37.0
31	P10	Andrew	5	41.8
32	P6 (M126182)	RCA	5	40.0
33	P12 (28380)	Andrew	5	44.6
34	P12-57	Andrew	5	44.7
35	8' Horn	GEC	5	41.5
36				
37	P6 dual freq.	Gabriel	5	37.5
38	P6R(4X6)	Andrew	5	3
39				
3A				
3B				
3C				
3D				
3E				
3F				
40	P3'4" (P40")	Motorola	5	33.5
41	P6R(4x6)	Motorola	5	42.0
42	7K8C2 P10R(8x12)	Gabriel	5	41.8
43	P4-17	Andrew	2	24.2
44	P6-17	Andrew	2	28.0
45	P8-17	Andrew	2	30.3
46	P10-17	Andrew	2	32.3
47	6457 Horn Refl.	Rohr	6	43.1
48	P12-17	Andrew	2	33.9
49	P12 L2012	Ainslie	2	34.0
4A				
4B				
4C				
4D				
4E				
4F				
50	M1-31045-C4	RCA	2	29.6
51	M1-31045-B4	RCA	2	25.7
52	KHX 15-37	Andrew	4	42.6
53	KL15A-59, KP15-65, KPL15-65, 75015, 34881, 34887, 75016	Andrew	6	47.4
54	MM600 10' para.	RCA	2	34.0
55	M125995-C 10' para.	RCA	2	32.5
56	P15 (70162)	Andrew	2	36.7
57	P60 (60ft dish)	Andrew	2	[illegible]0

CODE	ANTENNA DESCRIPTION	COMPANY	BAND	GAIN
58	P4-65	Andrew	6	35.9
59	P6-65	Andrew	6	39.4
5A				
5B				
5C				
5D				
5E				
5F				
60	P8-65	Andrew	6	41.9
61	P10-65	Andrew	6	43.9
62	P12, 70108, 70124	Andrew	6	45.5
63	P2-59	Andrew	6	30.1
64	P3'4" (P40")	Motorola	6	34.5
65	P2-71, PX2-71	Andrew	7	30.8
66	P4-71, PX4-71	Andrew	7	36.4
67	P6-71, PX6-71	Andrew	7	40.0
68	P8-71, PX8-71	Andrew	7	42.5
69	P10-71, PX10-71	Andrew	7	44.5
6A				
6B				
6C				
6D				
6E				
6F				
70	P12-71, PX12-71	Andrew	7	46.2
71	P15-71, PX15-71	Andrew	7	48.2

CODE	ANTENNA DESCRIPTION	COMPANY	BAND	GAIN
72	P8 (70701)	Andrew	8	43.4
73	P10 (70702A)	Andrew	8	45.4
74	P12 (70703A)	Andrew	8	47.0
75	P4-71	Andrew	8	37.1
76	P6-71	Andrew	8	40.6
77	Horn Ref.KS15676 (exg.)	N.E. Co.	10	47.5
78	P5R KS16386 dish KS16320(8x12)Ref.	N.E. Co.	10	46.9
79	P10R KS15852 dish KS16320(10x15)Ref.	N.E. Co.	10	48.0
7A				
7B				
7C				
7D				
7E				
7F				
80	P6 dual freq.	Gabriel	10	37.5
81	P8 shielded(7018 5)	Andrew	10	45.5
82	P4-107 (34997)	Andrew	10	40.3
83				
84			9	
85				
86				
87				
88				
89				

CODE	ANTENNA DESCRIPTION	COMPANY	BAND	GAIN
8A				
8B				
8C				
8D				
8E				
8F				
90				
91	EPA-4 (P4)	Jerrold	3	27.0
92	P6-24	Andrew	3	31.2
93	P6 (6-720)	Prodelin	3	31.0
94				
95				
96	E-TO-11H Omidirect	Jerrold	3	11.2
97	Mod 56105 Omidirect	Andrews	3	9.0
98				
99				
9A				
9B				
9C				
9D				
9E				
9F				
A0				
A1				
A2				
A3				

CODE	ANTENNA DESCRIPTION	COMPANY	BAND	GAIN
A4				
A5				
A6				
A7				
A8				
A9				
AA				
AB				
AC				
AD				
AE				
AF				
B0				
B1				
B2				
B3				
B4				
B5				
B6				
B7				
B8				
B9				
BA				
BB				
BC				
BD				
BE				

CODE	ANTENNA DESCRIPTION	COMPANY	BAND	GAIN	CODE	ANTENNA DESCRIPTION	COMPANY	BAND	GAIN
BE									
BF									
C0									
C1									
C2									
C3									
C4									
C5									
C6									
C7									
C8									
C9									
CA									
CB									
CC									
CD									
CE									
CF									
D0									
D1									
D2									
D3									
D4									
D5									
D6									
D7									
D8									
D9									

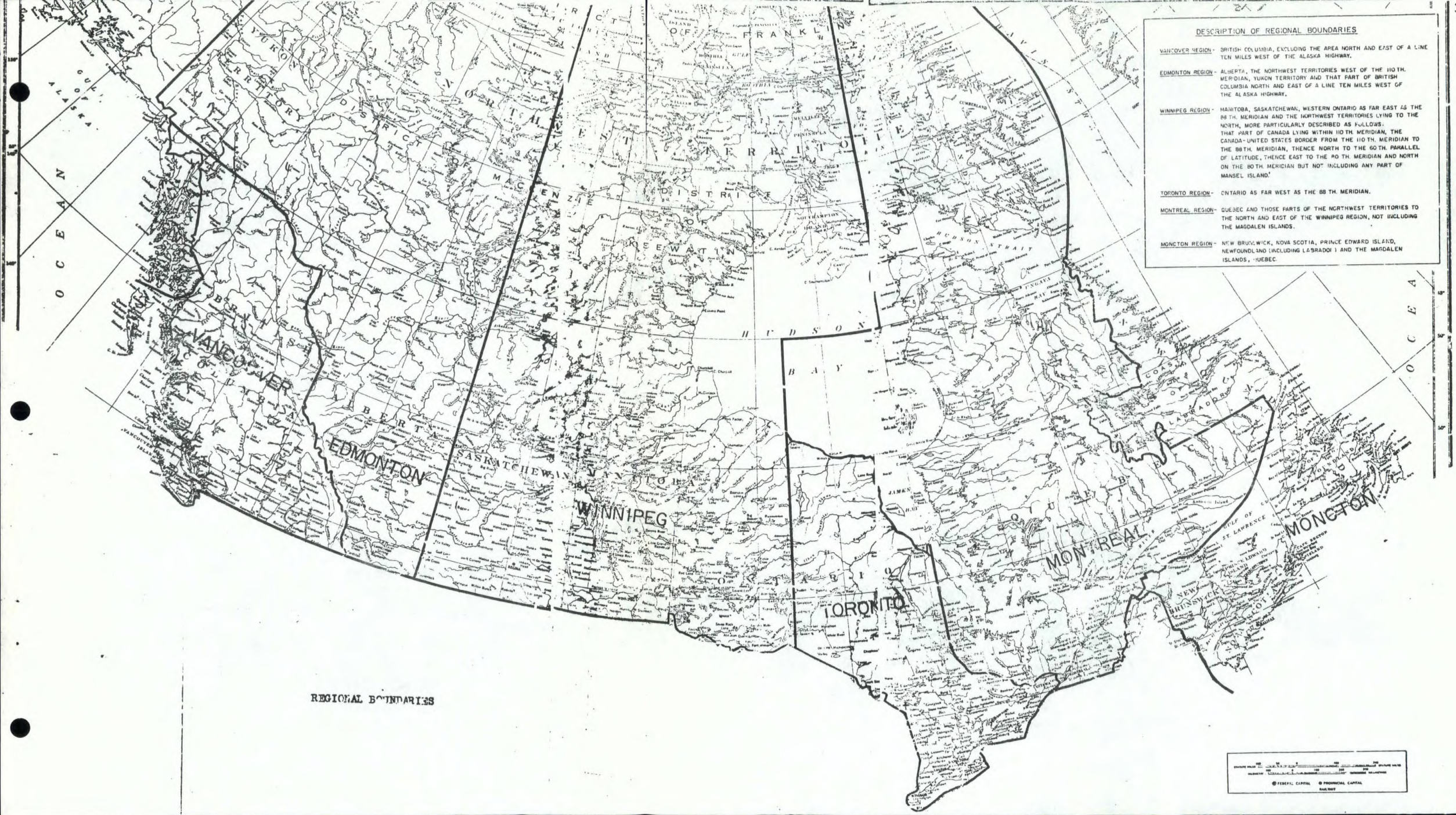
d) PROVINCE CODE AND ABBREVIATIONS

C	ALL CAN	All Canada
B	BC	British Columbia
A	ALTA	Alberta
S	SASK	Saskatchewan
M	MAN	Manitoba
O	ONT	Ontario
Q	QUE	Quebec
K	NB	New Brunswick
V	NS	Nova Scotia
P	PEI	Prince Edward Island
F	NFLD	Newfoundland
L	LAB	Labrador
T	NWT	Northwest Territories
Y	YT	Yukon Territories

e) Regional Code

A numerical code has been developed to indicate which Regional Office has jurisdiction over a station using a specific frequency assignment listed on the data base. The regional boundaries are defined on the map following, with the code being as follows:

Region	Code
Vancouver	1
Edmonton	2
Winnipeg	3
Toronto	4
Montreal	5
Moncton	6



REGIONAL BOUNDARIES

f) Company Code

The Company Code number is a means of identifying the licensee of a station. It is derived by taking the last digit of the file series number, used for various categories of station licences, and adding the file number, i.e. File number 6208-10964 is coded as 810964. For DATA purposes, it is imperative that the Company Code always has 6 digits. Therefore, if a number has less than 6 digits, zeros are added - File 6208-12 is coded as 800012, 6210-92 as 000092 and 6206-952 as 600952.

g) STANDARD INDUSTRIAL CODE (SIC)

The SIC code is published by the Dominion Bureau of Statistics to identify types of industrial business and government services by code numbers primarily for statistical purposes.

It has been confirmed by the licensing group that although they are not carrying this code on their actual licences it is being maintained in their data base with no changes planned. For this reason we have made plans to discontinue the SIC code in the frequency assignment data and thus will avoid a duplication of effort.

h) Circuit Mc/s Order Code

The following code is for use on form 41-1019 (Frequency Assignment Data) for eventual inclusion in the data base. The decode will only be produced by the computer for the production of ITU notification forms:

Code		Decode
A	-	5,
B	-	7,
C	-	9,
D	-	11,
E	-	13,
F	-	15,
G	-	17,
H	-	19,
I	-	21,
J	-	23,
K	-	25,
L	-	27,
Z		all Mc/s orders reproduced consecutively 5-27

i) Polarization Code

Code	Decode	Definition
1	Horizontial Polarization	The polarization of a wave in which the electric-field vector is parallel to the horizon.
2	Vertical Polarization	A vertically polarized wave is linearly polarized with the direction of polarization being vertical.
3	Circular Polarization	A circularly polarized wave is elliptically polarized with the ellipse being a circle in the plane perpendicular to the plane of propagation.

VI Proposed Conversion Schedules

Conversion to the new format will take place progressively over a period of time, commencing with the DND frequency list in early October 1969 followed by the MHz and the kHz list.

Use of the new source document will be implemented on the "cut-off" date immediately prior to the conversion of each frequency list.

VII License and Frequency Requisition Form

At the present time an application for a land or mobile station licence may require completion of the following forms:
(Forms attached as Appendix III).

a) Frequency Referral and Notification Form 41-4509
b) Call Sign Reporting Form 41-4506
c) Station Licence Requisition Form - Mobile Stations form 41-2053
Land Stations form 41-2054
d) Co-ordination Form - IRAC (USA) form 41-4504
- FCC (USA) form 41-4505
e) Frequency Assignment Notification (ITU) form 41-4006

All forms have a different format and layout, but each has several fields of common information.

Information from some of the above forms is used to produce:

1a. Station licence (land) - 41-2006
b. Station licence (mobile) - 41-2007

2a. Frequency Reporting Form kHz 41-1004
b. Frequency Reporting Form MHz 41-1005
c. Military Frequency Reporting Form 41-4502

The forms in 2 above are used primarily for data processing.

Forms 41-4509, 41-4506, 41-2053 and 41-2054 are completed for new stations, Forms 41-4504 and 41-4505 are completed only when co-ordination is necessary while Form 41-4006 is completed when notification to the IFRB is required.

A single format (Forms 41-1019, 41-1020) has been developed which will permit the elimination of:

a) Frequency Reporting Form (kHz) 41-1004
b) Frequency Reporting Form (MHz) 41-1005
c) Military Frequency Reporting Form 41-4502

The new format contains more information than was available in the forms replaced including technical information which could facilitate the amalgamation of the BTRE and BTRF data files.

A new data collection form is presently being developed which is so designed that it contains all information required on forms mentioned in paragraph 1 and would make forms mentioned in a) b) and c) of paragraph 1 superfluous.

The data collection form could start in BTRL, then go to BTRE if necessary, then to BTRF for frequency and Call Sign Assignment, whereafter completion of the Frequency Assignment Data Form (41-1019 - 41-1020) is possible. Following this the data collection form would return to BTRL for issuance of the licence.

Draft instruction guide lines for completion of the data collection form have been prepared for its users. These instructions contain a list of all terms and units used for the Data Processing file, a set of general instructions, item by item instructions for each entry, examples of form completion for typical cases, code-decode tables, symbol requirements etc.

If this new form is used in accordance with the guide lines provided the completion of the Frequency Assignment Data forms 41-1019 and 41-1020 will be simple and uniform, and this will be reflected in frequency assignment data records.

VIII Future Planning

We are continually investigating new procedures and equipment in our effort to provide a more useful and efficient service. To this end we have recently investigated equipment capable of replacing the key punch/verifier operation. The equipment we investigated, the Viatron System 21 is a data handling station which according to the manufacturer is intended to do the work of much costlier equipment. The basic Viatron terminal - a keyboard, a processor with magnetic tape units, and a display unit - is rather like an all-electronic teletypewriter that displays copy on a television screen instead of typing it out on paper.

The terminals primary purpose in record handling is to get textual and numeric data into a form for report or notification production or the insertion into a computer with minimum programming. For example, the TV tube might display a blank frequency assignment data card or other record form so a clerk can just fill in the blanks.

Operators can check data displayed on the screen before transmitting it to another terminal or a larger computer or recording it on tape. The terminal could replace our card punching and verifying operations.

Accessories are available which will produce hard copy on a teletypewriter or through a robot device attached to an IBM Selectric typewriter.

Although this equipment has possibilities we foresee several weak points and would like to investigate other similar equipment before making any definite recommendations.

It has been recognized for some time that our present method and procedures for printing and distributing copies of our frequency lists have serious deficiencies. We have looked at various alternate methods of reproducing the computer print-out and we are particularly impressed with the Zerox 2400 - IV which is a modern system (put into commercial use in the United States in 1967 but not yet available in Canada) the capabilities of which include the following:

a) Duplication of reports, off-line directly from single ply continuous form computer print-out.

b) Reduction of report size from 15" x 11" to a standard 11" x 8½".

c) Automatic collation of duplicated reports. The individual sorting bins having a 150 page capacity.

d) Forms projection by means of a plastic overlay, providing a great degree of flexibility of report format.

. . . 2

The Zerox 2400-IV uses an imaging process which does not require any intermediate steps to make multiple copies from the original on ordinary unsensitized bond paper.

When using the Zerox 2400-IV to duplicate off-line directly from the computer print-out, copies may be produced at a rate up to 40 per minute depending on the number of copies per original. It comes equipped with a 10 bin sorter module, two additional modules may be added, in which case 30 collated sets may be produced automatically.

The advantages of using this equipment in our application include the elimination of the following:

a) Extra time re-running on computer or computer printer (we are presently running material required in more than 4 copies through the computer high speed printer on 4-part paper twice or more). Services of the Queen's Printer are used for some jobs.

b) Multi-part carbon sets (output from computer).

c) Printing time and delays in waiting for material to be trucked to and from Queen's Printer.

d) Possibility of stocking outdated forms or conversely depleting our stock of forms and having work stop while waiting for printing of a new supply.

e) Deleaving and bursting costs.

f) Necessity of using expensive computer produced printing plates.

g) The need to stock pre-printed output forms (i.e. we will be able to use inexpensive plain paper and simply change the clear acetate overlay to create our own forms.

In addition to the foregoing we are attempting to overcome problems associated with incorporating the call-sign data file into the domestic frequency list data file.

Once the conversion program has been completed it will be necessary to review all technical information in the present data base. At the present time we are attempting to develop a systematic program for the review of all technical data.

We are also looking at the possibility of using the Addressograph-Multigraph Model 2675 offset Multilith and the Model 2300 copier. In dissussions with Mr. Lalonde of the Queen's Printer it was established that by using this equipment it is possible to print forms in any colour over computer output data and plain paper at the time that the Model 2675 Multilith produces its copies. Copies are produced at the rate of 9000 per hour and plates for producing forms will be provided by the Queen's Printer at no extra charge. Queen's Printer charges will run at the rate of 1.5¢ per copy regardless of number.

A study was conducted to determine the most efficient way of entering serial numbers on forms 41-1019 and 41-1020 (frequency assignment data) and as a result a decision was taken to acquire two electric numbering stamps. (Simplex Model HA17G) with guides to ensure proper placement of the serial number.

Appendix I

Geographical Place Name Abbreviation Rules

ABBREVIATION RULES

1. Follow rules in proper sequence.

2. Omit accent marks, and punctuation marks which are part of a name.

3. Use figures wherever possible.

4. Multiple words omit spaces only if cannot be accommodated in eight or less spaces.

   E.G. SUN LAKE for SUN LAKE but SUNKROCK for SUNK ROCK.

5. Apply "Standard Abbreviations" in names of two or more words.

6. Eliminate vowels from right to left. (A, E, I, O, U)

   Do not eliminate a vowel if it is first letter of a word.

   Do not eliminate a vowel if it is part of the "standard abbreviations", (eliminate vowels only to point required to reduce a name to eight characters)

   E.G. TRAFALGR for TRAFALGAR

7. Eliminate one of any double letters starting at right.

   Do not eliminate any part of a "standard abbreviation".

8. Eliminate letters as follows:

   N from NG
   H from TH
   C from CK
   L from LD
   T from ST
   H from CH

   Do not eliminate any part of a "standard abbreviation".

   Do not eliminate first letter following a "standard abbreviation".

   E.G. CHRSCHRC for CHRISTCHURCH

9. Eliminate letter R starting from the right.

   Do not eliminate any part of a "standard abbreviation"

   Do not eliminate the first letter following a "standard abbreviation"

   E.G. HTCNSNBG for HUTCHINSONBURG.

10. Eliminate from the right all characters over eight.

    E.G. INTNTNIF for INTERNATIONAL FALLS.

STANDARD ABBREVIATIONS

B	Baie, Bay
BCH	Beach
BK	Bank
BO	Boundary
BRDG	Bridge
BT	Butte
C	Cap, Cape
CHR	Church
CK	Creek
CL	Central
CLLG	College
CNT	Center or Centre
CO	Country
CP	Camp
CR	Compressor Station
CRY	Cannery
CS	Capacitor Station
CTG	Cottage
CY	City
DEP	Depot
DM	Dam
DPT	Department
E	East, Est, Eastern
ET	Estate
EXC	Excepted
EXTR	This symbol means "External" and indicates that the reception area is outside the country.
FLD	Field
FLS	Falls
FT	Fort
FTR	Fire Tower
GR	Grand, Grande
GRAL	General
GRD	Guard
GS	Generating Station
GT	Great
HD	Head
HLL	Hill
HPTL	Hospital
HR	Harbour
HTS	Heights
HVN	Haven
HWAY	Highway
I	Ile, Island, Isle (and Plural)
INTR	This symbol means "Interior" and indicates that the reception area covers all the territory of the country.

IS	Islands
JN	Junction
L	Lac, Lake (And Plural)
LCL	This symbol means "Local" and replaces indications such as "the vicinity of" or "area of". The transmitting station: it has also been used where the same location has been given for reception as for transmission.
LD	Land
LDG	Landing
LFB	Lifeboat
LG	Lagoon
LH	Lighthouse
LKT	Lookout
LNG	Lodging
LR	Lower
LSH	Lightship
LSTN	Lightstation
MON	Monument
MT	Mont, Monte, Mount (And Plural)
MTN	Mountain
MTNS	Mountains
MUN	Municipality
N	New, Nouveau, Nouvelle, Nova.
NMON	National Monument
NO	Nord, North, Northern
NPK	National Park
NRF	National Refuge
NTL	National
OCN STN V	Ocean Station Vessel
PK	Peak
PMPSTN	Pump Station
PNT	Point, Pointe
PR	Prince
PRJ	Project
PRK	Park
PPK	Provincial Park
PRS	Princess, Princesse
PS	Pass
PT	Port
PWR	Power
R	This symbol means that the entry concerns a reception frequency.
RA	This symbol means that the entry concerns a frequency used for reception by a radio astronomy station.
RCH	Ranch
RCK	Rock
RD	Road
RDS	Roads
RG	Range

RGR	Ranger
RPS	Rapids
RPTR	Repeater
RSV	Reserve, Reservation
RV	River, Riviere,
RVSD	Riverside
S	Saint, Sainte
SD	Sound
SH	Ship, Navire
SHL	Shoal
SHLS	Shoals
SO	Sud, South, Southern
SPR	Springs
SQ	Square
SS	Sub Station
STN	Station
STRM	Stream
T	Terminal
TG	Thermal Generator
TP	Township
TR	Tower
TRP	Trap
TS	Transformer Station
UP	Upper
V	Ville
VLG	Village
VLY	Valley
W	West, Ouest, Western
WSH	Weather Ship
WX	Weather
ZN	This symbol means "Network"

Appendix II

Letter to all Regions re the completion of licence application forms.

MEMORANDUM

CLASSIFICATION

TO / A: RSRR Moncton, Montreal, Toronto, Winnipeg, Edmonton, Vancouver.

YOUR FILE No. / Votre dossier:

OUR FILE No. / Notre dossier: 6208-1 6209-1 (BTRF)

FROM / De: BTR Ottawa

DATE: May 20, 1969

FOLD

SUBJECT / Sujet: Completion of Radio Station Licence Application Forms.

At the present time, steps are being taken to re-structure the radio frequency list data base and to modify a number of procedures associated therewith. When the revised system is implemented additional items (technical information - etc.) will be required. One of the reasons for making these changes is to provide better and more comprehensive data suitable for computer programs utilized in frequency selection and co-ordination, spectrum management activities and the international co-ordination and notification of frequency assignments.

2. In order to assist us in reaching our objectives more emphasis will have to be placed on the accuracy and the completeness of all information provided in radio station licence application forms and other related documents. Regional and Field Office personnel can be of considerable help in this area by carefully checking the information submitted by applicants and taking steps to insure that such information is accurate, complete and in the form required in all cases.

3. We are particularly concerned about a number of items where applicants frequently fail to provide complete and accurate information. These items are listed below together with our comments:

Items	Comments
Geographical Co-ordinates	It is most important that station co-ordinates be accurate to within ±5 seconds. This is especially true where frequencies above 30 Mc/s are involved if we are to have a capability of determining intermodulation or interference probabilities with a computer program. It is realized, however, that something less than ± 5 seconds may have to be accepted for stations to be located in remote areas.

. . . 2

Items	Comments
Place Name	For place name sorting purposes in the computer we have found that standardization of the spelling of place names is most essential. At Headquarters we have chosen the Gazetteer of Canada published by the Surveys and Mapping Branch, Department of Energy, Mines and Resources as our standard. Information for the Province of Quebec is not yet available. While arrangements are being made for a final check of the spelling of place names at Headquarters, it would facilitate our efforts if Regional and Field Offices would insure insofar as possible that place names are spelled correctly and with some degree of consistency.
Circuit Length	It would seem that maps indicating circuit lengths and/or service ranges do not always accompany licence applications. Maps or sketches are called for as outlined in Note 5 of the Application Form 41-2008. It is becoming more and more necessary for us to have this information and it is requested that Regional Offices attempt to have this requirement met by applicants whenever possible. It would not be convenient to send maps for very long range HF circuits (e.g. Montreal - Vancouver) but in these cases the circuit length (great circle) should be provided.
Bandwidth and Type of Emission	There are numerous types of emissions used in radio communications today and it is difficult in some cases to adequately determine interference potentials without an accurate emission description. For this purpose reference may be made to Article 2, Section I of the ITU Radio Regulations, Geneva 1959. Additionally, we are attaching a diagrammatical presentation of numerous types of emission and their designators. Necessary bandwidth should be presented in the form prescribed in Section II of Article 2 (see above) and should be computed in accordance with Appendix 5 of the 1959 ITU Radio Regulations.

. . . 3

Item	Comments
Power	The current Application Form No. 41-2008 provides for adequate information. However, referring to Note 10 in the Application Form it is pointed out that applicants often fail to provide appropriate power entries for the various types of emission requested. To assist in power conversion reference may be made to the conversion factors contained in recommendation 326-1 of the Oslo 1966 CCIR documents which we understand are available at regional offices (table enclosed for your convenience, however, this table is also published as Appendix M of the Monitoring Service Manual MS-1). For example, in the Radio Equipment List, the power shown for single sideband A3J mode is expressed as peak envelope power (PEP), whereas for A3H mode the power is expressed as carrier power. In the case where A3H emission is reported, conversion to mean power should be made in accordance with the tables contained in recommendation 326-1. In the Radio Equipment List, Part A-11 under the listing for Racal (Canada) Limited, Model TA.127, the power listed for A3J emission is 1 kilowatt (PEP) and for A3H, 250 watts (carrier power). Mean power should be indicated on application forms for A3H emission (see Note 10) and should be computed as follows:- a) Convert 250 watts (carrier power) to PEP using the conversion factor 0.250 obtained in recommendation 326-1 under A3H b) Column 4 which equals 1 kilowatt. b) Convert PEP to mean power using the conversion factor 0.275 obtained under A3H b) Column 5 which equals 275 watts.
Antenna	While information received on this item is usually satisfactory, care should be taken to insure that the antenna type and antenna characteristics are indicated.
Hours of Operation	Note 11 in the Application Form 41-2008 indicates the correct procedure to be followed in providing this data.
Reception Points	On this item we experience considerable difficulty because applicants are prone to indicate "Licensees Stations" for example. This type of information is not adequate for our purposes. Especially in the selection of frequencies below 30 Mc/s we require the names of all reception points for each frequency to be used up to a total of five reception points,

. . . 4

Items	Comments
	and if communication would be carried out with mobiles this should also be indicated. If the proposed radio communication system has a station working more than five other stations on a single frequency the five selected receiving points should be representative of the coverage area. In cases where the stations selected are representative only this should be so stated. To meet this requirement attachments to the application would seem to be necessary in some cases. Generally speaking, the same procedure should be applied with respect to frequencies above 30 Mc/s. Systems using frequencies above 30 Mc/s, however, usually do not have stations working more than five reception points on a single frequency.
Frequencies	Frequency entries are usually accurate but when "SSB" systems or stations are involved care should be taken to insure that the "carrier frequency" has been indicated in brackets.

4. While several items have been mentioned above, inaccuracies or incomplete information in the radio frequency list data base could result in very serious problems in the future. Hopefully, however, with the full co-operation of Regional and Field Office staff, it will be possible for us to improve the quality of information in the radio frequency list and make it more valuable for our purposes.

W.J. Wilson,
Director, Telecommunications
Regulation Branch.

Att.

Appendix III

Forms

a)	41-1004	Frequency Reporting Form (kHz)
b)	41-1005	Frequency Reporting Form (MHz)
c)	41-1019	Frequency Assignment Data (MHz)
d)	41-1020	Frequency Assignment Data (kHz)
e)	41-2006	Licence to use Radio (Land Station)
f)	41-2007	Licence to use Radio (Mobile Station)
g)	41-2053	Mobile Station Licence Requisition
h)	41-2054	Land Station Licence Requisition
i)	41-4006	Frequency Assignment Notification
j)	41-4502	Military Frequency Reporting Form
k)	41-4504	Co-ordination Form IRAC (USA)
l)	41-4505	Co-ordination Form FCC (USA)
m)	41-4506	Call Sign Reporting Form
n)	41-4509	Frequency Referral and Notification
o)	PROPOSED	Licence and Frequency Requisition Form
p)	41-1021	Frequency Assignments (Listing)
q)	PROPOSED	Place Name Table Maintenance Entries (Addition)
r)	PROPOSED	Place Name Table Maintenance Entries (Deletion)
s)	PROPOSED	Company Code Table Maintenance Entries (Addition)
t)	PROPOSED	Company Code Table Maintenance Entries (Deletion)

a) 41-1004 Frequency Reporting Form (kHz)

NEW ☐
AMENDMENT ☐
DELETION ☐

DEPARTMENT OF TRANSPORT
TELECOMMUNICATIONS AND ELECTRONICS BRANCH
FREQUENCY REPORTING FORM

PUNCHED BY
REPORTED BY
SUPERVISORS OK

SEQUENCE CODE							COMPANY CODE						ASSIGNED FREQUENCY									DATE IN SERVICE						CALL SIGN						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35

NAME OF STATION																			CO-ORDINATES															
																			LATITUDE						LONGITUDE									
36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	64	65	59	60	61	62	63	66	67			

TRANSMITTING TO																TRANSMITTING TO (CALL SIGN)						D.O.T.	L/P V/H	POWER							
64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29			

CLASS & NATURE						BANDWIDTH & TYPE OF EMISSION									STANDARD IND. CODE					HOURS IN USE				AZIMUTH			GAIN db		E.M.O.
30	31	32	33	34	35	39	40	41	42	43	44	45	46	47	48	49	50	51	52	68	69	70	71	72	73	74	75	76	77			

41-1004(2184)
6-69

DATE

ORIGINATOR

b) 41-1005 Frequency Reporting Form (MHz)

NEW ☐
AMENDMENT ☐
DELETION ☐

DEPARTMENT OF TRANSPORT

GOVERNMENT TELECOMMUNICATIONS POLICY AND ADMINISTRATION BUREAU

FREQUENCY REPORTING FORM

PUNCHED BY
VERIFIED BY
SUPERVISORS OK

SEQUENCE CODE							COMPANY CODE						ASSIGNED FREQUENCY									DATE IN SERVICE						CALL SIGN						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35

NAME OF STATION																	PROV.	REG.	CO-ORDINATES											
																			LATITUDE						LONGITUDE					
36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	64	65	59	60	61	62	63	66	67

TRANSMITTING TO																TRANSMITTING TO (CALL SIGN)						D.O.T.	L/P V/H	POWER					
64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29

CLASS & NATURE						BANDWIDTH & TYPE OF EMISSION									STANDARD IND. CODE					HOURS IN USE				AZIMUTH			GAIN db		E.M.O.
30	31	32	33	34	35	39	40	41	42	43	44	45	46	47	48	49	50	51	52	68	69	70	71	72	73	74	75	76	77

DATE _____ ORIGINATOR _____

c) 41-1019 Frequency Assignment Data (MHz)

SERIAL NUMBER (1–8)

A ADDITION
C CHANGE
D DELETION (9)

DEPARTMENT OF COMMUNICATIONS

FREQUENCY ASSIGNMENT DATA

DO NOT KEYPUNCH

ASSIGNED FREQUENCY (10–18)	DATE ASSIGNED DAY MO. YR. (19–24)	CALL SIGN (25–30)	NAME OF TX STATION (31–38)	PROV. (39)	REG. (40)	

GEOGRAPHIC CO-ORDINATES LATITUDE / LONGITUDE (53)	COMPANY CODE (54–59)	NECESSARY BANDWIDTH AND TYPE OF EMISSION (60–68)	CO-ORD. CODE (69)	PBL (70)	ITU (71)	1 (80)

RECIPROCAL FREQUENCY (10–18)	CIRCUIT LENGTH (19–23)	TECH. CAT. (24)	FIELD STRENGTH (25–30)	RECEPTION POINTS (31–38)	CONDUCTIVITY (39–40)	

ANTENNA (technical characteristics) AZIMUTH (41–45)	db GAIN (46–48)	ANT. POL. (49)	RADIATOR HEIGHT AMSL (50–54)	SITE ELEVATION AMSL (55–59)	TX RF PWR OUTPUT (60–63)	HOURS IN USE (64–67)	CLASS AND NATURE (68–71)	2 (80)

STANDARD INDUSTRIAL CODE (10–14)	NO. OF MOBILE UNITS (15–17)	E (1) RP (dbw) (18–21)	MEDIAN RECEIVED LEVEL (dbm) (22–26)	ANTENNA (pattern details) WIDTH OF MAIN LOBE (27–30)	PATTERN CODE (31–34)	ELEVATION ANGLE (35–39)	

CHANNEL CAPACITY (40–46)	RECIPROCAL SERIAL NO. (47–54)	MISC. LOSSES (55–56)	EQUIPMENT TYPE (57–66)	3 (80)

ITU

NOTICE NUMBER (10–14)	CIRCUIT HRS IN USE (15–18)	OTHER FREQUENCIES ON CIRCUIT (19–29)	SUPPLEMENTARY INFORMATION (30–40)	NOTIFIED DATE IN USE DAY (41–42)	MO.	YR. (45–46)	

NAVIGATION AIDS/ATC FUNCTION (47–55)	STAT. (56)	4 (80)

DATE	INITIALS	PUNCHED BY	VERIFIED BY	SUPERVISOR'S OK

41-1019

MEGAHERTZ

d) 41-1020 Frequency Assignment Data (kHz)

SERIAL NUMBER (1–8)

A ADDITION
C CHANGE
D DELETION (9)

DEPARTMENT OF COMMUNICATIONS

FREQUENCY ASSIGNMENT DATA

DO NOT KEYPUNCH

ASSIGNED FREQUENCY (10–18)	DATE ASSIGNED DAY / MO. / YR. (19–24)	CALL SIGN (25–30)	NAME OF TX STATION (31–38)	PROV. (39)	REG. (40)	

GEOGRAPHIC CO-ORDINATES LATITUDE / LONGITUDE (53)	COMPANY CODE (54–59)	NECESSARY BANDWIDTH AND TYPE OF EMISSION (60–68)	CO-ORD. CODE (69)	PBL (70)	ITU (71)	1 (80)

RECIPROCAL FREQUENCY (10–18)	CIRCUIT LENGTH (19–23)	TECH. CAT. (24)	FIELD STRENGTH (25–30)	RECEPTION POINTS (31–38)	CONDUCTIVITY (39–40)	

ANTENNA (technical characteristics)

AZIMUTH (41–45)	db GAIN (46–48)	POL. (49)	RADIATOR HEIGHT AMSL (50–54)	SITE ELEVATION AMSL (55–59)	TX RF PWR OUTPUT (60–63)	HOURS IN USE (64–67)	CLASS AND NATURE (68–71)	2 (80)

STANDARD INDUSTRIAL CODE (10–14)	NO. OF MOBILE UNITS (15–17)	E (I) RP (dbw) (18–21)	MEDIAN RECEIVED LEVEL (dbm) (22–26)	ANTENNA (pattern details) WIDTH OF MAIN LOBE (27–30)	PATTERN CODE (31–34)	ELEVATION ANGLE (35–39)	

CHANNEL CAPACITY (40–46)	RECIPROCAL SERIAL NO. (47–54)	MISC. LOSSES (55–56)	EQUIPMENT TYPE (57–66)	3 (80)

ITU

NOTICE NUMBER (10–14)	CIRCUIT HRS IN USE (15–18)	OTHER FREQUENCIES ON CIRCUIT (19–29)	SUPPLEMENTARY INFORMATION (30–40)	NOTIFIED DATE IN USE DAY (41)	MO.	YR. (46)	

NAVIGATION AIDS/ATC FUNCTION (47–56)	STAT.	4 (80)

DATE	INITIALS	PUNCHED BY	VERIFIED BY	SUPERVISOR'S OK

41-1020

KILOHERTZ

e) 41-2006 Licence to use Radio (Land Station)

DEPARTMENT OF COMMUNICATIONS

LICENCE TO USE RADIO

(Issued in accordance with the Radio Act and Regulations made thereunder)

CANADA

MINISTÈRE DES COMMUNICATIONS

LICENCE DE STATION RADIO

(Délivrée en conformité de la Loi sur la radio et de ses règlements d'exécution)

1

THIS LICENCE SHALL BE RETAINED ON THE STATION

LA PRÉSENTE LICENCE DOIT ÊTRE CONSERVÉE À LA STATION

THIS LICENCE EXPIRES
DATE D'EXPIRATION **MAR. - MARS 31,**

CO-ORDINATES - COORDONNÉES			
LAT. ° ′ ″ N	LONG. ° ′ ″ W-O		
SERVICE CATEGORY / CATÉGORIE DE SERVICE		CO. CODE / CODE CIE	NATIONALITY STATUS / NATIONALITÉ

ANTENNA STRUCTURE / BÂTI D'ANTENNE	
PAINT / PEINT	LIGHT / ÉCLAIRÉ

FEE / TAXE

IS HEREBY AUTHORIZED TO ESTABLISH AND OPERATE A **LAND STATION** AT
EST PAR LES PRÉSENTES AUTORISÉ À ÉTABLIR ET EXPLOITER UNE ***STATION TERRESTRE*** *À*

FREQUENCIES / FRÉQUENCES	BAND WIDTH AND TYPE OF EMISSION / LARGEUR DE BANDE ET TYPE D'ÉMISSION	POWER (KW) / PUISSANCE (KW)	AUTHORIZED COMMUNICATIONS / COMMUNICATIONS AUTORISÉES
	C/S		
	C/S		
	C/S		
	C/S		
	C/S		
	C/S		
	C/S		
	C/S		
	C/S		
	C/S		
	C/S		
	C/S		
	C/S		
	C/S		

(AND SUCH FREQUENCIES AS ARE SHOWN ON ATTACHED SCHEDULE) — *(ET TOUTES FRÉQUENCES INDIQUÉES DANS L'ANNEXE CI-JOINTE)*

CALL SIGN / INDICATIF	DATE OF ISSUE / DATE DE DÉLIVRANCE	LAND STATION LICENCE NO. / Nº DE LICENCE DE LA STATION TERRESTRE
		—

Eric Kierans

MINISTER OF COMMUNICATIONS - *MINISTRE DES COMMUNICATIONS*

SEE REVERSE SIDE — *VOIR AU VERSO*

26926

f) 41-2007 Licence to use Radio (Mobile Station)

DEPARTMENT OF COMMUNICATIONS

LICENCE TO USE RADIO

(Issued in accordance with the Radio Act and Regulations made thereunder)

CANADA

MINISTÈRE DES COMMUNICATIONS

LICENCE DE STATION RADIO

(Délivrée en conformité de la Loi sur la radio et de ses règlements d'exécution)

1

THIS LICENCE SHALL BE RETAINED ON THE STATION

LA PRÉSENTE LICENCE DOIT ÊTRE CONSERVÉE À LA STATION

THIS LICENCE EXPIRES
DATE D'EXPIRATION MAR. - MARS 31,

SERVICE CATEGORY / CATÉGORIE DE SERVICE	CO. CODE / CODE CIE	NATIONALITY STATUS / NATIONALITÉ

FEE / TAXE

IS HEREBY AUTHORIZED TO ESTABLISH AND OPERATE A **MOBILE STATION** IN
*EST PAR LES PRÉSENTES AUTORISÉ À ÉTABLIR ET EXPLOITER UNE **STATION MOBILE** SUR*

FOLD
LIER

FREQUENCIES / FRÉQUENCES	AUTHORIZED COMMUNICATIONS / COMMUNICATIONS AUTORISÉES	CONDITIONS
C/S		
C/S		
C/S		
C/S		
C/S		
C/S		
C/S		
C/S		
C/S		
C/S		
C/S		
C/S		
C/S		
C/S		

(AND SUCH FREQUENCIES AS ARE SHOWN ON ATTACHED SCHEDULE, IF ANY)

(ET TOUTES FRÉQUENCES INDIQUÉES DANS L'ANNEXE CI-JOINTE, S'IL EN EST)

DATE OF ISSUE
DATE DE DÉLIVRANCE

MOBILE STATION
LICENCE NO.
NO DE LICENCE DE LA STATION MOBILE

—

MINISTER OF COMMUNICATIONS - *MINISTRE DES COMMUNICATIONS*

SEE REVERSE SIDE - *VOIR AU VERSO*

41-2007 (10-68) R. L. CRAIN LIMITED

g) 41-2053 Mobile Station Licence Requisition

DEPARTMENT OF TRANSPORT
RADIO REGULATIONS DIVISION

MOBILE STATION LICENCE REQUISITION

PREFIX (3)

☐ NEW
☐ AMENDMENT
☐ CANCEL

LICENCE NO (5).

TO

NO. OF LICENCES REQUIRED

NAME OF LICENSEE (35) 1

STREET AND NUMBER (35) 2

CITY, TOWN, ETC. (35)	SERVICE CAT. (3)	S.I.C. (5)	CO. CODE (7)	NATIONALITY STATUS (4)
				3

AREA OF OPERATION (35)	FEE (3) (2) $
	4

FREQUENCIES (10) (1)	AUTHORIZED COMMUNICATIONS (21)	CONDITIONS (17)
Hz		5
Hz		6
Hz		7
Hz		8
Hz		9
Hz		10
Hz		11
Hz		12
Hz		13
Hz		14
Hz		15
Hz		16
Hz		17
Hz		18

DATE OF ISSUE (10) | EXPIRY DATE MARCH 31ST YEAR 19----- | 19

ORIGINATOR | DATE | ORIGINATING SECTION

41-2053
7-67

ACTION BY:
DATA

h) 41-2054 Land Station Licence Requisition

PREFIX (3) | LICENCE NO (S).

DEPARTMENT OF COMMUNICATIONS

LAND STATION LICENCE REQUISITION

☐ NEW
☐ AMENDMENT
☐ CANCEL

NO. OF LICENCES REQUIRED _____

NAME OF LICENSEE (35)	COORDINATES LAT. ° ' "N. LONG. ° ' "W.	1
STREET AND NUMBER (35)		2
CITY, TOWN, ETC. (35)	SVC. CAT. (4) / S. I. C. (5) / CO. CODE (7) / NATIONALITY STATUS (4)	3
STATION LOCATION (35)	FEE (3) (2) $ / ANTENNA STRUCTURES PAINT / LIGHT	4

FREQUENCIES (10) (1)	B.W. AND TYPE OF EMISSION (10)	(4) POWER KW (3)	AUTHORIZED COMM. (20)	
. Hz				5
. Hz				6
. Hz				7
. Hz				8
. Hz				9
. Hz				10
. Hz				11
. Hz				12
. Hz				13
. Hz				14
. Hz				15
. Hz				16
. Hz				17
. Hz				18

CALL SIGN (8)	DATE OF ISSUE (10)	EXPIRY DATE MARCH 31ST YEAR		19

ATTACHMENTS REQUIRED YES ☐ NO ☐

_____ ORIGINATOR

_____ DATE

_____ ORIGINATING SECTION

ACTION BY:

DATA _____

41-2054
6-69

i) 41-4006 Frequency Assignment Notification

(a) **CANADA**

DEPARTMENT OF TRANSPORT

GOVERNMENT TELECOMMUNICATIONS POLICY AND ADMINISTRATION BUREAU

FREQUENCY ASSIGNMENT NOTIFICATION

(e) Notice No. / Date

kc/s	
Mc/s	

1 Assigned frequency

(b) New ☐ (c) Change ☐ (d) Delete ☐

2c Date of putting into use

3 Call sign (identification)

CAN

4a Name of transmitting station 4b Country 4c Longitude and latitude

Locality (ies) or area(s) with which communication is established	Length of circuit (km)	Class of station and nature of service	Class of emission, necessary bandwidth and description of transmission	Power (in kW) Pc Pm Pp e	Antenna			Max. hrs of operation of the cct to each locality (G.M.T.)	Megacycle order of other frequencies on the same circuit	Supplementary information
					Azmth of max. radiation	Angular width of main lobe	Antenna gain (db)			
5a	5b	6	7	8	9a	9b	9c	10	11	

41-4006
4-68

12b A

Regional or service agreement

COORD/

Other information:

j) 41-4502 Military Frequency Reporting Form

SEQUENCE CODE 7	COMPANY CODE 6

DEPARTMENT OF TRANSPORT
TELECOMMUNICATIONS AND ELECTRONICS BRANCH

MILITARY FREQUENCY REPORTING FORM

NEW ☐
AMENDMENT ☐
DELETION ☐

ASSIGNED FREQUENCY 9	DATE IN SERVICE 6	CALL SIGN 7	NAME OF STATION 17	PROV.	REG.

CO-ORDINATES 13		TRANSMITTING TO 16	BANDWIDTH & TYPE OF EMISSION 9
LATITUDE	LONGITUDE		

POWER 7	CLASS & NATURE 6	O.O.T.	L/P V/H	AZIMUTH 3	GAIN db 2	HOURS IN USE 4	LENGTH OF CIRCUIT 3	E.M.O.	REMARKS

NOTE:

PUNCHED BY_____

DATE_____

VERIFIED BY_____

ORIGINATOR_____

SUPERVISORS OK_____

41-4502(2188)

k) 41-4504 Co-ordination Form IRAC (USA)

DIRECTOR, GOVERNMENT TELECOMMUNICATION
POLICY AND ADMINISTRATION BUREAU

CANADA

SERIAL: _____

DATE

DEPARTMENT OF COMMUNICATIONS

OTTAWA

EXECUTIVE SECRETARY
INTERDEPARTMENT RADIO ADVISORY COMMITTEE
WASHINGTON 25, D.C.

SIR,

THIS OFFICE HAS RECEIVED AN APPLICATION FOR RADIO COMMUNICATION FACILITIES CONTAINING THE FOLLOWING TECHNICAL DETAILS OF OPERATION. YOUR COMMENTS REGARDING THE USE OF THE FREQUENCIES INDICATED WOULD BE APPRECIATED.

NAME OF APPLICANT: _____

FILE NO: _____ SERVICE: _____

CLASS OF STATION	NUMBER OF STATIONS	LOCATION		FREQ. MC/S	POWER WATTS	BAND WIDTH & EMISSION	COMMENTS
		LAT. N.	LONG. W.				

ADDITIONAL INFORMATION

DIRECTOR,
GOVERNMENT TELECOMMUNICATION
POLICY AND ADMINISTRATION BUREAU

COMMENTS WITH REGARD TO APPLICATIONS:

EXECUTIVE SECRETARY
INTERDEPARTMENT RADIO
ADVISORY COMMITTEE

41-4504
2-69

1) 41-4505 Co-ordination Form FCC (USA)

DIRECTOR,
GOVERNMENT TELECOMMUNICATION
POLICY AND ADMINISTRATION BUREAU

CANADA

SERIAL:_____

DATE:

DEPARTMENT OF COMMUNICATIONS

OTTAWA

SECRETARY,
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON 25, D.C.

SIR,

THIS OFFICE HAS RECEIVED AN APPLICATION FOR RADIO COMMUNICATION FACILITIES CONTAINING THE FOLLOWING TECHNICAL DETAILS OF OPERATION. YOUR COMMENTS REGARDING THE USE OF THE FREQUENCIES INDICATED WOULD BE APPRECIATED.

NAME OF APPLICANT:_____

FILE NO:_____ SERVICE:_____

CLASS OF STATION	NUMBER OF STATIONS	LOCATION		FREQ. (MC/S)	MEAN POWER TO ANTENNA (WATTS)	EMISSION	ANTENNA GAIN & AZIMUTH	ANTENNA HEIGHT ABOVE M.S.L.	COMMENTS
		LAT. N.	LONG. W.						

ADDITIONAL INFORMATION:

DIRECTOR,
GOVERNMENT TELECOMMUNICATION POLICY AND
ADMINISTRATION BUREAU

COMMENTS WITH REGARD TO APPLICATIONS:

SECRETARY
FEDERAL COMMUNICATIONS
COMMISSION

41-4505
2-69

m) 41-4506 Call Sign Reporting Form

DEPARTMENT OF TRANSPORT

TELECOMMUNICATIONS AND ELECTRONICS BRANCH

CALL SIGN REPORTING FORM

NEW ☐

AMENDMENT ☐

DELETION ☐

CALL SIGN	USER'S NAME	
LOCATION NAME		ASSIGNMENT DATE

PUNCHED BY
VERIFIED BY
SUPERVISOR'S OK

REMARKS:

DATE _____ ORIGINATOR _____

41 - 4506

n) 41-4509 Frequency Referral and Notification

GOVERNMENT TELECOMMUNICATIONS BUREAU

FREQUENCY REFERRAL AND NOTIFICATION

NEW ☐ AMEND ☐ CANCEL ☐

REQUESTED BY	APPLICANT
E	FOLIO

REMARKS (REQUESTING UNIT)

DATE INITIALS

REQUESTING UNIT							BTRF	
LOCATION	TRANSMIT TO	XMTR POWER	ERP	DB	EMSN	AZI	FREQUENCY	CALL SIGN

NOTE(S) NO. APPLY

NOTE 1. FREQUENCY USE COORDINATED WITH:

NOTE 2. ASSIGNMENT IS MADE ON A | GENERAL NON-INTERFERENCE BASIS: / SHARED BASIS: / TEMPORARY BASIS:

NOTE 3. ON A NON-INTERFERENCE BASIS TO MARITIME MOBILE SERVICES. POWER NOT TO EXCEED 50 WATTS IN ACCORDANCE WITH RR209 GENEVA 1959.

NOTE 4.

KHz IS IN THE (FIXED) AERONAUTICAL (R) BAND.
THE ASSIGNMENT IS THEREFORE ON A SECONDARY BASIS TO THIS SERVICE AND NO PROTECTION CAN BE GRANTED FROM PRESENT OR FUTURE RADIO STATIONS OPERATING IN THIS BAND.

NOTE 5. NO PROTECTION CAN BE AFFORDED TO CARRIER CURRENT "COMMUNICATIONS SYSTEMS" FROM PRESENT OR FUTURE RADIO SERVICE ASSIGNMENTS IN THE PLANNED LF BANDS.

REMARKS: (FREQUENCY ASSIGNMENT UNIT)

DATE INITIALS

	DATE	INITIALS
FREQUENCY RECORDED		
APPROVAL GRANTED		

41-4509

LICENCE AND FREQUENCY REQUISITION FORM

(Draft #4)

Name of Licensee :
Street and number:
City, Town etc :

Antenna structure
paint ☐
light ☐

Land ☐ Mobile ☐

Date assigned :
Call sign :
Geographic name :
Lat. & Long : ° ' N ° ' W
Company code :

Nationality status:

Service category :
Fee(s) :
Licence prefix and number(s) ☐ –

	Frequencies	BW & emission	power	Authorized Communications	Expires
1	..Hz				
2					
3					
4					
5					
6					
7					
8					

Remarks:

				Pos.	Card
Serial number:				1 - 8	
Status :	addition ☐	change ☐	deletion ☐	9	all
Assigned frequency	(5.4)		..Hz	10-18	
Date assigned	(6)			19-24	
Call Sign	(6)			25-30	
Name of TX Station	(8)			31-38	
Province	(1)			39	
Region	(1)			40	
Geographic coord.	(6+7)	Lat. ° ' "	Long. ° ' "	41-53	1
Company code	(6)			54-59	
Necessary B.W. and emission	(9)			60-68	
Co-ordination code	(1)			69	
Portable (P or blank)	(1)			70	
I.T.U.	(1)			71	
. . . . .				72-79	
Reciprocal frequency	(5.4)		..Hz	10-18	
Circuit length	(5)		km	19-23	
Technical category	(1)			24	
Field strength	(6)		uV/m	25-30	
Reception points	(8)			31-38	
Conductivity	(2)		mmho/m	39-40	
Antenna, azimuth	(3.2)		°	41-45	
Antenna, gain	(2.1)		dB	46-48	2
Antenna, polarization	(1)			49	
Antenna, radiator height, amsl	(6)		ft	50-54	
Site elevation, amsl	(5)		ft	55-59	
Transmitter RF output	(4)		W,kor M	60-63	
Hours in use	(4)		hrs	64-67	
Class and nature of service	(4)			68-71	
. . . . .				72-79	
Standard Industrial Code	(5)			10-14	
Number of mobile units	(3)			15-17	
E(I)RP	(2.2)		dBw	18-21	
Median received level	(4.1)		dBm	22-26	
Antenna, width main lobe	(3.1)		°	27-30	
Antenna pattern	(4)			31-34	3
Elevation angle	(3.2)		°	35-39	
Channel capacity	(7)			40-46	
Reciprocal Serial number	(8)			47-54	
Miscellaneous losses	(2)		dB	55-56	
Equipment type	(10)			57-66	
. . . . .				67-79	
ITU Notice number	(5)			10-14	
ITU Circuit hours in use	(2)		hrs	15-18	
ITU Other frequencies on circuit	(11)		MHz	19-29	
ITU Supplementary info	(11)			30-40	4
ITU Notified date in use	(6)			41-46	
Navigation AIDS/ATC, function	(9)			47-55	
Navigation AIDS/ATC, status	(1)			56	
. . . . .				57-79	

Completed and approved: RL RE RF

date :

p) 41-1021 Frequency Assignments (Listing)

DEPARTMENT OF COMMUNICATIONS
FREQUENCY ASSIGNMENTS

DATE | PAGE NO.

STATUS	ASSIGNED FREQUENCY	DATE ASSIGNED DAY	DATE ASSIGNED MO.	DATE ASSIGNED YR.	CALL SIGN	NAME OF TX. STATION	REGN.	PROV.	GEOGRAPHICAL CO-ORDINATES LAT.	GEOGRAPHICAL CO-ORDINATES LONG.	RECEPTION POINT(S)	NO. OF MBL UNITS	CLASS AND NATURE	NECESSARY BANDWIDTH AND TYPE OF EMISSION	TX. RF PWR OUTPUT	E(I)RP dBw	ANTENNA AZIM.	ANTENNA dB GAIN	ANTENNA POL.	ANTENNA RAD. HT. A.M.S.L.	ANTENNA SITE EL. A.M.S.L.	HRS. IN USE	CO-ORD.	I.T.U.	PBL	TECH. CAT.	RECIPROCAL FREQUENCY	COMPANY CODE	SERIAL NUMBER

41-1021

q) PROPOSED Place Name Table Maintenance Entries (Addition)

RECORD IDENT- 2
MAINTENANCE STATUS-A

FREQUENCY ASSIGNMENT DATA
COMPANY CODE TABLE MAINTENANCE ENTRIES

ADDITION

COMPANY CODE (6)	LICENSEES NAME (50)

r) PROPOSED Place Name Table Maintenance Entries (Deletion)

RECORD IDENT-1
MAINTENANCE STATUS-D

FREQUENCY ASSIGNMENT DATA

PLACE NAME TABLE MAINTENANCE ENTRIES

DELETION

PLACE NAME CODE (8)	FULL GEOGRAPHIC PLACE NAME (DECODE) (25)

s) PROPOSED Company Code Table Maintenance Entries (Addition)

RECORD IDENT- 2
MAINTENANCE STATUS -A

FREQUENCY ASSIGNMENT DATA

COMPANY CODE TABLE MAINTENANCE ENTRIES

ADDITION

COMPANY CODE (6)	LICENSEES NAME (50)

t) PROPOSED Company Code Table Maintenance Entries (Deletion)

FREQUENCY ASSIGNMENT DATA

RECORD IDENT - 2
MAINTENANCE STATUS - D

COMPANY CODE TABLE MAINTENANCE ENTRIES

DELETION

COMPANY CODE (6)	LICENSEES NAME (50)

Appendix IV

Technical Details of the Co-ordination Agreement with the USA for frequencies above 30 Mc/s.

AMENDING ANNEX TO THE TECHNICAL ANNEX TO THE

EXCHANGE OF NOTES OF OCTOBER 24, 1962, BETWEEN THE GOVERNMENT OF CANADA AND THE GOVERNMENT OF THE UNITED STATES OF AMERICA CONSTITUTING AN AGREEMENT FOR RADIO FREQUENCY COORDINATION AND USE OF RADIO FREQUENCIES ABOVE THIRTY MEGACYCLES PER SECOND.

INDEX TO THE TECHNICAL ANNEX

LISTING

FREQUENCY BANDS, AUTHORIZED COORDINATION AGENCIES OR CHANNELS, AND ARRANGEMENTS

Item	Frequency Bands Mc/s	Authorized Coordination Agencies or Channels U.S.	Canada	Coordination Arrangements and Remarks
1	30.56-32.0	FCC	DOT	Arrangement A
2	32.00-33.0	IRAC	DOT	Arrangement D
3	33.0-34.0	FCC	DOT	Arrangement A
4	34.0-35.0	IRAC	DOT	Arrangement D
5	35.0-36.0	FCC	DOT	Arrangement A
6	36.0-37.0	IRAC	DOT	Arrangement D
7	37.0-38.0	FCC	DOT	Arrangement A
8	38.0-39.0	IRAC	DOT	Arrangement D
9	39.0-40.0	FCC	DOT	Arrangement A
10	40.0-42.0	IRAC	DOT	Arrangement D
11	42.0-46.6	FCC	DOT	Arrangement A
12	46.6-47.0	IRAC	DOT	ITU RR 228
13	47.0-49.6	FCC	DOT	Arrangement A
14	49.6-50.0	IRAC	DOT	ITU RR 228
15	72.0-73.0	FCC	DOT	Arrangement A
16	74.6-75.4	FAA	DOT	Arrangement B
17	75.4-76.0	FCC	DOT	Arrangement A
18	108.0-117.975	FAA	DOT	Arrangement B
19	117.975-121.975	FAA	DOT	Arrangement B
20	121.975-123.075	FCC	DOT	Arrangement B
21	123.075-123.575	FCC	DOT	Arrangement B
22	123.575-128.825	FAA	DOT	Arrangement B
23	128.825-132.025	FCC	DOT	Arrangement B
24	132.025-136.0	FAA	DOT	Arrangement B
25	138.0-144.0	JCS	CDS*	Arrangement C
26	148.0-149.9	IRAC	DOT	Arrangement D
27	148.0-149.9	JCS	CDS*	Arrangement C

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

Item	Frequency Bands Mc/s	Authorized Coordination Agencies or Channels U.S.	Canada	Coordination Arrangements and Remarks
28	150.05-150.8	IRAC	DOT	Arrangement D
29	150.05-150.8	JCS	CDS*	Arrangement C
30	150.8-174.0	FCC	DOT	Arrangement A
31	162.0-174.0	IRAC	DOT	Arrangement D
32	216.0-225.0	JCS	CDS*	Arrangement C
33	328.6-335.4	FAA	DOT	Arrangement B
34	420.0-470.0	JCS	CDS*	Arrangement C
35	450.0-470.0	FCC	DOT	Arrangement A
36	890.0-942.0	JCS	CDS*	Arrangement C
37	942.0-960.0	FCC	DOT	Arrangement A
38	960.0-1215.0	FAA	DOT	Arrangement B
39	1215.0-1400.0	JCS	CDS*	Arrangement C
40	1300.0-1350.0	FAA	DOT	Arrangement C
41	1535.0-1540.0			Coordination not required at this time
42	1540.0-1660.0	IRAC	DOT	Arrangement B
43	1710.0-1850.0	IRAC	DOT	Arrangement D
44	1850.0-2200.0	FCC	DOT	Arrangement A
45	2110.0-2120.0	IRAC	DOT	Arrangement D
46	2200.0-2290.0	IRAC	DOT	Arrangement D
47	2300.0-2450.0	JCS	CDS*	Arrangement C
48	2450.0-2690.0	FCC	DOT	Arrangement A
49	2700.0-2900.0	FAA	DOT	Arrangement C
50	2700.0-3700.0	JCS	CDS*	Arrangement C
51	2900.0-3100.0	IRAC	DOT	Arrangement C
52	3700.0-4200.0	FCC	DOT	Arrangement A
53	4200.0-4400.0	IRAC	DOT	Arrangement B
54	4400.0-4990.0	IRAC	DOT	Arrangement D
55	5000.0-5250.0	IRAC	DOT	Arrangement B
56	5250.0-5925.0	JCS	CDS*	Arrangement C
57	5460.0-5650.0	IRAC	DOT	Arrangement C
58	5925.0-7125.0	FCC	DOT	Arrangement A
59	7125.0-8400.0	IRAC	DOT	Arrangement D
60	8400.0-8500.0			Coordination not required at this time
61	8500.0-10500.0	JCS	CDS*	Arrangement C
62	9000.0-9200.0	FAA	DOT	Arrangement C
63	9300.0-9500.0	IRAC	DOT	Arrangement C
	Gc/s			
64	10.55-10.68	FCC	DOT	Arrangement A
65	10.70-13.25	FCC	DOT	Arrangement A

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

Item	Frequency Bands Gc/s	Authorized Coordination Agencies or Channels U.S.	Canada	Coordination Arrangements and Remarks
66	13.25-13.4			Coordination not required at this time
67	13.4-14.0	JCS	CDS*	Arrangement C
68	14.0-15.4			Coordination not required at this time
69	15.4-15.7	IRAC	DOT	Arrangement B
70	15.7-17.7	JCS	CDS*	Arrangement C
71	17.7.23.0			Coordination not required at this time
72	23.0-24.25	JCS	CDS*	Arrangement C
73	24.25-33.4			Coordination not required at this time
74	33.4-36.0	JCS	CDS*	Arrangement C
75	36.0 and above			Coordination not required at this time

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

ARRANGEMENT A

ARRANGEMENT BETWEEN THE DEPARTMENT OF TRANSPORT AND THE FEDERAL COMMUNICATIONS COMMISSION FOR THE EXCHANGE OF FREQUENCY ASSIGNMENT INFORMATION AND ENGINEERING COMMENTS ON PROPOSED ASSIGNMENTS ALONG THE CANADA-UNITED STATES BORDERS IN CERTAIN BANDS ABOVE 30 MC/S

(Adopted by correspondence May, 1950; Revised Ottawa March, 1962 and Washington, D.C., October, 1964)

1. (a) This arrangement involves assignments in the following frequency bands, except as provided in sub-paragraphs (b), (c) and (d) below:

Mc/s	Mc/s	Mc/s
30.56 - 32.00	75.40 - 76.00	1850.0 - 2200.0
33.00 - 34.00		2450.0 - 2690.0
35.00 - 36.00		3700.0 - 4200.0
37.00 - 38.00		5925.0 - 7125.0
39.00 - 40.00	150.80 - 174.00	
42.00 - 46.60	450.00 - 464.725	
47.00 - 49.60	465.275 - 470.00	
72.00 - 73.00	942.00 - 960.00	

Gc/s

10.55 - 10.68 10.70 - 13.25

(b) The following frequencies are not involved in this arrangement because of the nature of the services:

Mc/s	Mc/s	
156.3	156.7	157.20
156.35	156.8	157.25
156.4	156.9	157.30
156.45	156.95	157.35
156.5	157.0 and 161.6	157.40
156.55	157.05	
156.6	157.1	
156.65	157.15	

(c) Assignments proposed in accordance with the railroad industry radio frequency allotment plan along the United States-Canada borders utilized by the Federal Communications Commission and the Department of Transport, respectively, may be excepted from this arrangement at the discretion of the referring Agency.

(d) Assignments proposed in any radio service in frequency bands below 470 Mc/s appropriate to this arrangement, other than those for stations in the Domestic Public (land mobile or fixed) category, may be excepted from this arrangement at the discretion of the referring Agency if a base station assignment has been made previously under the terms of this arrangement or prior to its adoption in the same radio service and on the same frequency and in the local area, and provided the basic characteristics of the additional station are sufficiently similar technically to the original assignment to preclude harmful interference to existing stations across the border.

2. (a) For Bands below 470 Mc/s, the areas which are involved lie between Lines A and B and between Lines C and D, as follows:

Line A - Begins at Aberdeen, Wash. running by great circle arc to the intersection of 48° N., 120° W., thence along parallel 48° N., to the intersection of 95° W., thence by great circle arc through the southernmost point of Duluth, Min., thence by great circle arc to 45° N., 85° W., thence southward along meridian 85° W., to its intersection with parallel 41° N., thence along parallel 41° N., to its intersection with meridian 82° W., thence by great circle arc through the sourthernmost point of Bangor, Me., thence by great circle arc through the southernmost point of Searsport, Me., at which point it terminates; and

Line B - Begins at Tofino, B.C., running by great circle arc to the intersection of 50° N., 125° W., thence along parallel 50° N., to the intersection of 90° W., thence by great circle arc to the intersection of 45° N., 79° 30' W., thence by great circle arc through the northernmost point of Drummondville, Quebec (Lat: 45° 52' N., Long: 72° 30' W.), thence by great circle arc to 48° 30' N., 70° W., thence by great circle arc through the northernmost point of Campbellton, N.B., thence by great circle arc through the northernmost point of Liverpool, N.S., at which point it terminates.

Line C - Begins at the intersection of 70° N., 144° W., thence by great circle arc to the intersection of 60° N., 143° W., thence by great circle arc so as to include all of the Alaskan Panhandle; and

Line D - Begins at the intersection of 70° N., 138° W., thence by great circle arc to the intersection of 61° 20' N., 139° W. (Burwash Landing), thence by great circle arc to the intersection of 60° 45' N., 135° W., thence by great circle arc to the intersection of 56° N., 128° W., thence south along 128° meridian to Lat. 55° N., thence by great circle arc to the intersection of 54° N., 130° W., thence by great circle arc to Port Clements, thence to the Pacific Ocean where it ends.

(b) For all stations using bands between 470 Mc/s and 1000 Mc/s; and for any station of a terrestrial service using a band above 1000 Mc/s, the areas which are involved are as follows:

(1) For a station the antenna of which looks within the 200° sector toward the Canada-United States borders that area in each country within 35 miles of the borders; and;

(2) For a station the antenna of which looks within the 160° sector away from the Canada-United States borders, that area in each country within 5 miles of the borders;

(3) The area in either country within coordination distance (paragraph 7) of a receiving earth station in the other country which uses the same band.

(c) For bands above 1000 Mc/s, coordination of an earth station is required if any portion of the Canada-United States borders lies within the coordination distance (paragraph 7) of the earth station.

3. (a) Each Agency shall furnish the other with a complete frequency assignment record, including, among the basic characteristics reported, the date of first usage of each frequency by each of the stations shown regardless of the class of service, which were in actual operation on October 1, 1960, and located in the areas indicated in 2.(a) above for the frequency bands below 470 Mc/s, and located in the areas indicated in 2.(b) above for the frequency bands above 470 Mc/s. For the purpose of the revised arrangement, such record shall constitute, together with the 6th Edition of the Radio Frequency Record (Volume III), the master frequency assignment records for the two Agencies upon acceptance by the other Agency. Accordingly, in implementing the Geneva (1959) Radio Regulations, as amended by the EARC, Geneva 1963, each Agency shall use these frequency records, in lieu of subsequent I.T.U. records, in matters leading to the resolution of pertinent cases of harmful interference involving stations authorized by the two Agencies.

(b) Each Agency shall keep its frequency assignment data in the aforementioned records current through the submission to the other Agency of its recapitulative master frequency assignment records at intervals of three months.

4. (a) Before the Federal Communications Commission takes final action on any application for the use of any frequency in the bands herein, in the areas stipulated in paragraphs 2(a), 2(b)(1) and 2(b)(2) above involving an effective radiated power in excess of five watts, or if protection is desired for an operation involving a power of five watts, or less, it will refer the pertinent particulars of the proposed assignment (see Appendix 3, 4 or 5 as appropriate), in the form shown in Appendix 1 hereof, to the

Department of Transport for comment as to whether the granting of an authorization will be likely to result in the causing of harmful interference to any existing Canadian assignments authorized by the Department.

(b) Before the Department of Transport takes final action on any application for the use of any frequency in the bands herein, in the areas stipulated in paragraph 2(a), 2(b)(1) and 2(b)(2) above involving an effective radiated power in excess of five watts, or if protection is desired for an operation involving power of five watts, or less, it will refer the pertinent particulars of the proposed assignment (see Appendix 3, 4 or 5 as appropriate), in the form shown in Appendix 2 hereof, to the Federal Communications Commission for comment as to whether the granting of an authorization will be likely to result in the causing of harmful interference to any existing United States assignments authorized by the Commission.

(c) Before either Agency takes final action on any application for use of any frequency in the bands herein which are allocated to a space service, in the area stipulated in paragraph2(b)(3) above, regardless of the power involved, it will refer the pertinent particulars of the proposed assignment (see Appendix 3, 4 or 5 as appropriate), in the applicable form shown in Appendix 1 or 2 hereof, to the other Agency for comment as to whether the granting of an authorization will be likely to result in the degrading of the previously agreed protection to a receiving earth station.

(d) Neither the Federal Communications Commission nor the Department of Transport shall be bound to act in accordance with the views of the other. However, to keep such instances to a minimum, each Agency should cooperate to the fullest extent practicable with the other by furnishing such additional data as may be required.

5. Whenever differences of opinion concerning the probability of harmful interference exist, which cannot be resolved otherwise, or in cases where the information available makes it difficult to determine whether harmful interference would be created by the granting of a particular authorization, arrangement should be made for actual on-the-air tests to be observed by representatives of both the Federal Communications Commission and the Department of Transport. Should harmful interference be caused to the existing station, the Agency having jurisdiction over the proposed station should be notified promptly so that the transmission of the interfering station may be halted. In the absence of a complaint of harmful interference, the authorization may not be granted until a lapse of 30 calendar days following the test period to allow sufficient time for the exchange, if desired, of engineering or other comments indicating an objection to the assignment.

6. In the interest of planned use of the spectrum, information concerning future expansions and adjustments of the several services allocated to use the above bands, in the areas stipulated above, shall be exchanged to the maximum extent practicable.

7. Coordination distance shall be the distance, calculated for any station, according to Recommendation 1A of the Final Acts of the EARC, Geneva, 1963.

APPENDIX 1 TO
ARRANGEMENT A

FEDERAL COMMUNICATIONS COMMISSION
Washington, D. C. 20554

AIRMAIL

Director, Telecommunications and Electronics Branch
OTTAWA, Ontario

In reply refer to
6150 -

Sir:

Serial_____
Date:

This office has received an application for radiocommunication facilities containing the following technical details of operation. Your comments regarding the use of the frequencies indicated below would be appreciated.

Name of applicant_____

File No._____Service:_____

CLASS OF STATION	NUMBER OF STATIONS	LOCATION LAT. N. LONG. W.	FREQ. (MC/S)	MEAN POWER TO ANTENNA (WATTS)	EMISSION	ANTENNA GAIN & AZIMUTH	ANTENNA HEIGHT IN FT. ABOVE M.S.L.	ANTENNA ELEVATION ANGLE DEGREES

Additional Information

Secretary
FEDERAL COMMUNICATIONS COMMISSION

COMMENTS with regard to application:

DIRECTOR, TELECOMMUNICATIONS and
ELECTRONICS BRANCH

APPENDIX 2 TO
ARRANGEMENT A

AIR SERVICES
TELECOMMUNICATIONS AND
ELECTRONICS BRANCH

DEPARTMENT OF TRANSPORT
OTTAWA

Federal Communications Commission
Washington, D. C. 20554

Serial_____

Date:

Sirs:

This office has received an application for radiocommunication facilities containing the following technical details of operation. Your comments regarding the use of the frequencies indicated below would be appreciated.

Name of applicant:_____

File No:_____

Service:_____

CLASS OF STATION	NUMBER OF STATIONS	LOCATION LAT. N. LONG. W.	FREQ. (MC/S)	MEAN POWER TO ANTENNA (WATTS)	EMISSION	ANTENNA GAIN & AZIMUTH	ANTENNA HEIGHT IN FT. ABOVE M.S.L.	ANTENNA ELEVATION ANGLE DEGREES

Additional Information:

Director, Telecommunications
and Electronics Branch

COMMENTS with regard to application:

AIRMAIL

Secretary
FEDERAL COMMUNICATIONS COMMISSION

APPENDIX 3 TO
ARRANGEMENT A

BASIC DATA REQUIRED FOR COORDINATION IN

THE FIXED SERVICE AND LAND MOBILE SERVICE

BANDS BELOW 470 MC/S (EXCLUDING IONOSPHERIC SCATTER)

a. Operating agency

b. Class of station

c. Number of stations - base & mobile

d. Frequency

e. Location and coordinates

f. Locality or area of reception

g. Class of emission and necessary bandwidth

h. Power (mean) delivered to the antenna

i. Antenna gain (db) and azimuth, when available

j. Antenna elevation in feet above mean sea level (MSL)

APPENDIX 4 TO
ARRANGEMENT A

BASIC DATA REQUIRED FOR COORDINATION OF STATIONS OF THE FIXED SERVICE AND MOBILE SERVICE IN BANDS ABOVE 470 MC/S (EXCLUDING TROPOSPHERIC SCATTER)

a. Operating agency

b. Class of station

c. Number of stations - base and mobile

d. Frequency

e. Location and coordinates

f. Locality or area of reception, including coordinates of receiving stations at fixed locations

g. Class of emission and necessary bandwidth

h. Power (mean) delivered to the antenna

i. Antenna gain (db) and azimuth, and elevation angle when available

j. Antenna elevation in feet above mean sea level (MSL)

k. Polarization of transmitted wave

l. Topographic map of territory between stations at fixed locations and Canada - U.S. borders (required only for stations within the coordination distance of a previously coordinated receiving earth station using the same band)

APPENDIX 5 TO
ARRANGEMENT A

BASIC DATA REQUIRED FOR COORDINATION OF
EARTH STATIONS IN THE SPACE SERVICE

a. Operating agency

b. Class of station

c. Frequencies

d. Location and coordinates

e. Azimuthal and elevation coverage of celestial hemisphere as defined by main axis of antenna

f. Class of emission and necessary bandwidth

g. Power (mean) delivered to the antenna and, where applicable, estimated terminal coupling losses

h. Maximum gain of antenna in the horizontal plane as a function of azimuth

i. Maximum gain of antenna (referred to isotropic)

j. Antenna elevation in feet above mean sea level (MSL)

k. Polarization of transmitted wave

l. Topographic map of territory between earth station and Canada - U.S. borders in the sector wherein the coordination distance exceeds the distance to the border

m. Numerical values of terrain shielding in the pertinent directions

ARRANGEMENT B

ARRANGEMENT FOR THE EXCHANGE OF FREQUENCY ASSIGNMENT INFORMATION AND ENGINEERING COMMENTS ON PROPOSED ASSIGNMENTS ALONG THE CANADA/UNITED STATES BORDERS IN CERTAIN AVIATION BANDS

(Adopted Ottawa, March 1962; Revised Washington, D. C., October, 1964)

1. This arrangement involves assignments in the frequency bands set forth in paragraph 8 hereof.

2. In the interest of the planned use of the spectrum, information concerning future expansions and adjustments of the services allocated these bands, in the coordination zones stipulated in the Appendices attached hereto, shall be exchanged to the maximum extent practicable.

3. The Agency proposing to establish a new station, or to modify the basic characteristics of an existing station, shall furnish to the appropriate Agency the technical data necessary to complete coordination, in accordance with the attached Appendices.

4. The Agency responsible for coordination shall examine the information provided and shall reply as soon as practicable advising whether or not a conflict is anticipated. If so, the detail of the conflict and the particulars of the station likely to experience interference shall be supplied. New proposals or discussions may be initiated with the object of resolving the problem.

5. In the interest of planned use of the frequency bands allocated for use of space techniques in the Aeronautical Mobile (R) and Aeronautical Radionavigation Services, information concerning assignments to stations using space techniques in these bands shall be exchanged to the maximum extent practicable. This will involve assignments for:

   a. All spacecraft; and
   b. Transmitting stations and receiving stations which use space techniques.

6. Whenever differences of opinion concerning the probability of harmful interference exist, which cannot be resolved otherwise, or in cases where the information available makes it difficult to determine whether harmful interference would be created by the proposed operation, mutual arrangement should be made for actual on-the-air tests to be observed by representatives of the U.S. agencies concerned and the Department of Transport. Should harmful interference be caused to the existing station, the Agency having jurisdiction over the proposed operation should be notified promptly so that the transmissions of the interfering station may be halted.

7. Neither the U.S. agencies concerned nor the Department of Transport shall be bound to act in accordance with the views of the other. However, to keep such instances to a minimum, each Agency should cooperate to the fullest extent practicable with the other by furnishing such additional data as may be required.

8. The bands treated and the agreed action on each are as follows:

FREQUENCY Band Mc/s	AUTHORIZED COORDINATION AGENCY U.S.	CANADA	REMARKS
74.60-75.40	FAA	DOT	Coordination not required at this time
108.0-117.975	FAA	DOT	SEE APPENDIX 1
117.975-121.975	FAA	DOT	SEE APPENDIX 2
121.975-123.075	FCC	DOT	Coordination not required at this time
123.075-123.575	FCC	DOT	Coordination not required at this time
123.575-128.825	FAA	DOT	SEE APPENDIX 2
128.825-132.025	FCC	DOT	SEE APPENDIX 3
132.025-135.0	FAA	DOT	SEE APPENDIX 2
135.0-136.0	FAA	DOT	SEE APPENDIX 4
328.6-335.4	FAA	DOT	SEE APPENDIX 1
960.0-1215.0	FAA	DOT	SEE APPENDIX 1
1540-1660	IRAC	DOT	Coordination not required at this time except for applications involving the use of space techniques.
4200-4400	IRAC	DOT	" "
5000-5250	IRAC	DOT	" "
15.4-15.7 Gc/s	IRAC	DOT	" "

NOTE "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.

APPENDIX 1 TO
ARRANGEMENT B

RADIONAVIGATION SERVICE - AERONAUTICAL

ILS-LOC, 108-112 Mc/s; ILS-GP, 328.6-335.4 Mc/s; VOR, 108-117.975 Mc/s; DME, 960-1215 Mc/s.

TECHNICAL DATA REQUIRED FOR COORDINATION

(a) Frequency
(b) Location name and geographical coordinates to the nearest second
(c) Class of emission and necessary bandwidth
(d) Transmitter mean power output (Peak for DME)
(e) Antenna azimuth and gain in the event of a directional antenna array
(f) Facility service volume in terms of altitude and radius protected

COORDINATION ZONES

The coordination zones shall be based on the geographical distance from the US/Canadian borders as follows:

ILS - 100 NM of U.S./Canadian borders
VOR/DME - 300 NM of U.S./Canadian borders

Note 1: DOT/FAA agree to exchange recapitulative records of assignments at intervals of 3 months.

Note 2: DME channels 1 through 16 and 60 through 69 are excluded from coordination between the DOT and FAA.

Note 3: The SSR frequencies 1030 and 1090 Mc/s are excluded from coordination between the DOT and FAA.

Note 4: When the possibility exists that assignments outside of the normal coordination zones might result in harmful interference to the radio services of the other country due to their peculiar circumstances i.e., antenna height, power, directive arrays, abnormal service volumes, etc., the assignment of the frequencies involved may, to the extent practicable, be the subject of special coordination by the DOT and FAA.

Note 5: Coordination of airborne assignments is not required when use is an integral part of the Common Navigation System.

APPENDIX 2 TO
ARRANGEMENT B

AERONAUTICAL MOBILE (R) SERVICE - AIR TRAFFIC CONTROL

117.975-121.975 Mc/s; 123.575-128.825 Mc/s; 132.025-135.0 Mc/s.

TECHNICAL DATA REQUIRED FOR COORDINATION

(a) Frequency
(b) Location name and geographical coordinates
(c) Class of emission and necessary bandwidth
(d) Transmitter mean power output
(e) Antenna gain and azimuth in the event of a directiona antenna array
(f) Facility service volume and function, e.g., typical function service volumes:

Precision Approach Radar	30 NM up to 5000 ft.
Helicopter control	30 NM up to 5000 ft.
Local control and VFR Radar Advisory	30 NM up to 20,000 ft.
Approach control including radar	60 NM up to 25,000 ft.
Departure control including radar	60 NM up to 20,000 ft.
Low Altitude Enroute (United States)	60 NM up to 18,000 ft.
Low Altitude Enroute (Canada)	100 NM up to 23,000 ft.
High Altitude Enroute	150 NM up to 45,000 ft.

COORDINATION ZONES

The coordination zones for terminal and low altitude facilities are within 400 NM of the borders. The coordination zones for high altitude facilities are within 600 NM of the borders. This is predicated upon the terminal assignments being placed between 117.975-126.975 Mc/s and the enroute assignments between 126.975-135.0 Mc/s. Exceptions should be handled in accordance with Note 7.

Note 1: DOT and FAA agree to exchange recapitulative records of assignments at intervals of three months.

Note 2: The frequency 121.5 Mc/s is excluded from coordination when used for emergency or distress and for SAR and scene of action functions. The frequency 121.6 Mc/s is excluded from coordination when used for SAR and scene of action functions.

Note 3: Coordination of airborne assignments is not required when use is an integral part of the Air Traffic Control Service.

Note 4: Protection is provided for the following fixed assignments in British Columbia:

133.65 Mc/s ± 75 kc/s
133.77 Mc/s ± 75 kc/s
134.43 Mc/s ± 150 kc/s

APPENDIX 2 TO
ARRANGEMENT B

Note 5: The frequencies 134.05 and 134.15 Mc/s will not be assigned in order to provide protection to operations on the frequency 134.10 Mc/s.

Note 6: The frequencies 126.90, 127.10, 127.30 and 128.50 Mc/s will continue to be used by Canada for enroute operational control.

Note 7: When the possibility exists that assignments outside of the normal coordination zones might result in harmful interference to the radio services of the other country due to their peculiar circumstances, i.e., satellite relay stations, antenna height, power, directive arrays, abnormal service volumes, etc., the assignment of the frequencies involved may, to the extent practicable, be the subject of special coordination by the DOT and FAA.

APPENDIX 3 TO
ARRANGEMENT B

AERONAUTICAL MOBILE (R) SERVICE - ENROUTE OPERATIONAL CONTROL

128.825-132.025 Mc/s

TECHNICAL DATA REQUIRED FOR COORDINATION

(a) Frequency
(b) Location name and geographical coordinates
(c) Class of emission and necessary bandwidth
(d) Transmitter mean power output
(e) Antenna gain and azimuth in the event of a directional antenna array
(f) Level of operations:

Low-Level (LL) - below 15,000 feet
Medium Level (ML) - 15,000 to 24,000 feet
High-Level (HL) - above 24,000 feet

COORDINATION ZONES

The coordination zones are within 400 NM of the borders for Low-Level (LL) and Medium-Level (ML) operations and 600 NM of the borders for High-Level (HL) operations, respectively. Exceptions should be handled in accordance with the provisions of Note 3.

FREQUENCY ALLOTMENT PLANS

The frequency allotment plan for the Aeronautical Mobile (R)/(Enroute) service in the band 128.825-132.025 Mc/s is shown for the United States in Attachment 1 hereto, and for Canada in Attachment 2. Case by case coordination effected subsequent to November 28, 1960, between the FCC and the DOT is a part of the attached plans.

Note 1: DOT/FCC agree to exchange recapitulative records of assignments essentially within the zones specified at intervals of three months.

Note 2: Coordination of airborne assignments is not required for enroute operational control communication assignments made in accordance with applicable rules and treaties.

Note 3: When the possibility exists that assignments outside the normal coordination zones might result in harmful interference to the radio service of the other country due to their peculiar circumstances, i.e., satellite relay stations, antenna height, power, directive antenna arrays, etc., the assignments of the frequencies involved may, to the extent practicable, be the subject of special coordination between the DOT and the FCC.

APPENDIX 4 TO
ARRANGEMENT B

AERONAUTICAL MOBILE (R) SERVICE - ENROUTE OPERATIONAL CONTROL AND AIR TRAFFIC CONTROL

135.0-136.0 Mc/s.

TECHNICAL DATA REQUIRED FOR COORDINATION

(a) Frequency
(b) Location name and geographical coordinates
(c) Class of emission and necessary bandwidth
(d) Transmitter mean power output
(e) Antenna gain and azimuth in the event of a directional antenna array
(f) For air traffic control facilities the service volume and function, e.g., typical function service volume:

Precision Approach Radar	30 NM up to 5000 ft.
Helicopter control	30 NM up to 5000 ft.
Local control and VFR Radar Advisory	30 NM up to 20,000 ft.
Approach control including radar	60 NM up to 25,000 ft.
Departure control including radar	60 NM up to 20,000 ft.
Low Altitude Enroute (United States)	60 NM up to 18,000 ft.
Low Altitude Enroute (Canada)	100 NM up to 23,000 ft.
High Altitude Enroute	150 NM up to 45,000 ft.

For enroute operational control functions the level of operations:

Low-Level (LL) - below 15,000 feet
Medium-Level (ML) - 15,000 to 24,000 feet
High-Level (HL) - above 24,000 feet

COORDINATION ZONES

The coordination zone is within 600 nautical miles of the borders. Exceptions should be handled in accordance with the provisions of Note 4.

Note 1: DOT and FAA agree to exchange recapitulative records of assignments at intervals of three months.

Note 2: Coordination of airborne assignments is not required when use is an integral part of the Air Traffic Control Service.

Note 3: Protection is provided temporarily for the existing fixed assignments on 136.03 Mcs/ in British Columbia.

Note 4: When the possibility exists that assignments outside of the normal coordination zones might result in harmful interference to the radio services of the other country due to their peculiar circumstances, i.e., satellite relay stations, antenna height, power, directive arrays, abnormal service volumes, etc., the assignment of the frequencies involved may, to the extent practicable, be the subject of special coordination by the DOT and FAA.

ARRANGEMENT C

ARRANGEMENT FOR FREQUENCY COORDINATION OF FIXED INSTALLATION RADARS

(Adopted Ottawa, March, 1962 and revised Washington, D.C., October, 1964)

It is agreed that:

1. Coordination shall be effected in those frequency bands used by fixed installation radars, some of which are essential to the defence of North America, whenever there is considered to be a likelihood of harmful interference. For this purpose information will be exchanged through the authorized coordination agencies, as follows:

   (a) All relevant existing assignments as of the effective date of this arrangement, as soon as practicable.

   (b) Current editions of the information in (a), as requested.

   (c) Proposed or planned assignments as far in advance as practicable.

2. The authorized agencies responsible for taking action on the coordinations are specified in the Index to the Technical Annex. In the case of US military coordinations, the coordination data will be transmitted via the established coordination channel. The Canadian military will coordinate as necessary with the DOT who will be responsible for the technical examination and completion of Canadian coordination in conjunction with cognizant Canadian military agencies. In the case of Canadian originated military coordinations, after internal coordination with the DOT, the data will be passed to the US via the established coordination channel. Non-military coordinations, after complete internal coordination, will be transmitted direct between the authorized non-military coordination agencies shown in the Index for each particular band.

3. Detailed characteristics of transmitting and receiving equipment, for both radar and any relevant non-radar equipment, will be exchanged in advance of the coordination referred to above. The minimum desirable information is as follows:

   (a) Frequency band or operating frequencies

   (b) Location name and geographical coordinates

   (c) Site elevation above mean sea level and antenna height above ground

   (d) Class of emission and necessary bandwidth

   (e) Power (peak) delivered to the antenna

(f) Function

(g) Antenna gain and orientation

4. Until the bands covered by this arrangement have been cleared of potential conflicts, at installations where there is a possibility of harmful interference, evaluation testing of radar installations will be carried out at the time of activation and maximum cooperation will be extended in obtaining the best engineering solution to any harmful interference problems. It is recognized that special problems exist in bands presently in use for non-radar purposes. These problems require continuous further study as regards both the procedures and the necessity of allocation adjustments so as to accommodate radars essential to the defence of North America.

5. Radar assignments in use on the effective date of this arrangement are not subject to further coordination by virtue of this arrangement.

6. Mobile radar assignments are not subject to this arrangement.

ARRANGEMENT D

ARRANGEMENT BETWEEN THE DEPARTMENT OF TRANSPORT AND THE INTERDEPARTMENT RADIO ADVISORY COMMITTEE FOR THE EXCHANGE OF FREQUENCY ASSIGNMENT INFORMATION AND ENGINEERING COMMENTS ON PROPOSED ASSIGNMENTS ALONG THE CANADA-UNITED STATES BORDERS IN CERTAIN FREQUENCY BANDS ABOVE 30 MC/S

(Adopted Washington, D.C., June, 1956; revised Ottawa, March, 1962, and Washington, D. C., October, 1964)

1. This arrangement provides for the exchange of frequency assignment information and engineering comments on proposed assignments in the following frequency bands:

(a)

Mc/s	Mc/s	Mc/s
32.00 - 33.00	40.00 - 42.00	1710.00 - 1850.00
34.00 - 35.00	148.00 - 149.90	2200.00 - 2290.00
36.00 - 37.00	150.05 - 150.80	4400.00 - 4990.00
38.00 - 39.00	162.00 - 174.00	7125.00 - 7250.00
		7750.00 - 7900.00

(b)

Mc/s
2110.00 - 2120.00
7250.00 - 7750.00
7900.00 - 8400.00

2. (a) For the bands below 1000 Mc.s, the areas involved are those bounded by:

Line A - Begins at Aberdeen, Wash. running by great circle arc to the intersection of 48° N., 120° W.. thence along parallel 48° N., to the intersection of 95° W., thence by great circle arc through the southernmost point of Duluth, Min., thence by great circle arc to 45° N., 85° W., thence southward along meridian 85°W ., to its intersection with parallel 41° N., thence along parallel 41°N., to its intersection with meridian 82°W., thence by great circle arc through the southernmost point of Bangor, Me., thence by great circle arc through the southernmost point of Searsport, Me., at which point it terminates; and

Line B - Begins at Tofino, B.C., running by great circle arc to the intersection of 50° N., 125 W., thence along parallel 50° N., to the intersection of 90° W., thence by great circle arc to the intersection of 45° N., 79° 30' W., thence by great circle arc through the northernmost point of Drummondville, Quebec (Lat: 45° 52' N., Long: 72° 30' W.), thence by great circle arc to 48° 30' N., 70° W., thence by great circle arc through the northernmost point of Campbellton, N. B., thence by great circle arc through the northernmost point of Liverpool, N.S., at which point it terminates.

Line C - Begins at the intersection of 70° N., 144° W., thence by great circle arc to the intersection of 60° N., 143° W., thence by great circle arc so as to include all of the Alaskan Panhandle; and

Line D - Begins at the intersection of 70° N., 138° W., thence by great circle arc to the intersection of 61° 20' N., 139° W. (Burwash Landing), thence by great circle arc to the intersection of 60° 45' N., 135° W., thence by great circle arc to the intersection of 56° N., 128° W., thence south along 128° meridian to Lat. 55° N., thence by great circle arc to the intersection of 54° N., 130° W., thence by great circle arc to Port Clements thence to the Pacific Ocean where it ends.

(b) For any station of a terrestrial service using a band above 1000 Mc/s, the areas involved are as follows:

(1) For a station the antenna of which looks within the 200° sector toward the Canada-United States borders, that area in each country within 35 miles of the borders;

(2) For a station the antenna of which looks within the 160° sector away from the Canada-United States borders, that area in each country within 5 miles of the borders; and,

(3) The area in either country within the coordination distance (paragraph 8) of a receiving earth station in the other country which uses the same band.

(c) For bands above 1000 Mc/s, coordination of an earth station is required if any portion of the Canada-United States borders lies within the coordination distance (paragraph 8) of the earth station.

3. Current records of frequency assignments in the frequency bands listed in paragraph 1 will be exchanged as required.

4. (a) Before either Agency takes final action on any proposal for the use of any frequency, other than for military tactical and training operations in the bands listed in paragraph 1(a), in the areas stipulated in paragraph 2:

(1) in the bands below 1000 Mc/s, listed in paragraph 1, involving power in excess of 5 watts; or,

(2) in the bands above 1000 Mc/s, listed in paragraph 1;

it will refer the pertinent particulars of the proposed assignment (see Appendix 1, 2 or 3, as appropriate) to the

other Agency for comment on whether the granting of an authorization will be liable to result in the causing of harmful interference to any existing radio operations of the Agency whose views are sought, or, in the case of a receiving earth station, whether harmful interference would be caused to reception at the earth station by any existing radio operations of the Agency whose views are sought.

(b) If adverse comment is not received within 30 calendar days from the date of the receipt of the proposal, the initiating Agency may go ahead with the operation after having notified the other Agency. In an emergency, coordination may be effected after the assignment is put into operation.

(c) Neither the Interdepartment Radio Advisory Committee nor the Department of Transport shall be bound to act in accordance with the views of the other. However, to keep such instances to a minimum, each Agency should cooperate to the fullest extent practicable with the other by furnishing such additional data as may be required.

5. In cases where the information available makes it difficult to determine whether harmful interference would be created by the granting of a particular authorization, arrangements may be made for actual on-the-air tests to be observed by representatives of each Agency and further exchanges of engineering comments following such tests.

6. In the interest of planned use of the spectrum, information about future expansions and adjustments of the services allocated the use of the bands listed in paragraph 1, in the areas stipulated herein, may be exchanged to the maximum extent practicable.

7. Where a previously coordinated frequency assignment is in use and an additional assignment is proposed for the same frequency in the same area, the additional assignment must also be coordinated, attention being drawn to the previous coordination. This does not apply to the addition of mobile units to a previously coordinated land mobile system.

8. Coordination distance shall be the distance, calculated for any station, according to Recommendation 1A of the Final Acts of the EARC, Geneva, 1963.

APPENDIX 1 TO
ARRANGEMENT D

BASIC DATA REQUIRED FOR THE COORDINATION OF TERRESTRIAL STATIONS IN THE BANDS BELOW 1000 MC/S

a. Class of station

b. Number of stations (including, when available, number of mobile stations)

c. Location and coordinates

d. Frequency

e. Power (mean) delivered to the antenna

f. Class of emission and necessary bandwidth

g. Antenna gain (db) and azimuth, when available

h. Antenna elevation in ft. above mean sea level (MSL), when available

APPENDIX 2 TO
ARRANGEMENT D

BASIC DATA REQUIRED FOR THE COORDINATION OF TERRESTRIAL STATIONS IN THE BANDS ABOVE 1000 MC/S

a. Class of station

b. Number of stations (including, when available, number of mobile stations)

c. Location and coordinates

d. Frequency

e. Power (mean) delivered to the antenna

f. Class of emission and necessary bandwidth

g. Antenna gain (db), azimuth and, when available, elevation angle

h. Antenna elevation in ft. above mean sea level (MSL)

i. Polarization of transmitted wave

j. Topographic map of territory between stations at fixed locations and the Canada-United States borders (required only for stations within the coordination distance of a previously coordinated receiving earth station which uses the same band)

APPENDIX 3 TO
ARRANGEMENT D

BASIC DATA REQUIRED FOR THE COORDINATION OF EARTH STATIONS IN THE SPACE SERVICE

a. Class of station

b. Frequencies

c. Location and coordinates

d. Azimuthal and elevation coverage of celestial hemisphere as defined by main axis of antenna

e. Class of emission and necessary bandwidth

f. Power (mean)delivered to the antenna and, where applicable, estimated terminal coupling losses

g. Maximum gain of antenna in the horizontal plane as a function of azimuth

h. Maximum gain of antenna (referred to isotropic)

i. Antenna elevation in ft. above mean sea level (MSL)

j. Polarization of transmitted wave

k. Topographic map of territory between earth station and Canada-U.S. borders in the sector wherein the coordination distance exceeds the distance to the border

l. Numerical values of terrain shielding in the pertinent directions