DBC-P Modified Version of UHF-TV

Allotment Program

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CONTENTS

I - PURPOSE OF THE COMPUTER PROGRAM

The UHF-TV Channel Allotment Program has been developed to allot a requested number of channels, usually from channel 14 through 69, to a specified set of communities, subject to the following:

(1) Compatability. New allotments must be compatible with each other and with existing allotments.

In the following, the term allotment is used to denote either an approved or existing transmitter for a given channel at a specific site, or a channel planned (by D.O.C.) for a given town. In the latter case the channel does not have a fixed location.

(2) Priorities. The user may specify that certain requests are more important than others.

(3) Minimum impact. Where a choice exists, the allotment which has the least impact on future spectrum availability in surrounding communities will be chosen.

II- OVERVIEW OF THE SYSTEM

There are two files that can be accessed by the main source file SCOSUHF : the DATA file or "DATAASS" and an output DUMP file or "UHFOUT".

The DATA file contains distance tables and all the relevant Canadian and U.S. UHF-TV data for regular and low power stations. Both protected channels and new requests are found in that file.

Should there be a need to run just a few cities or a small part of a province, and if the channels selected are acceptable, these channels may be frozen and a partial plan may be built around them. The UHF allotment program will dump at the user's request such information onto an output file listed as "UHFOUT" and the information will appear in the proper format ready to be inserted into that part of the UHF data file where protected stations are listed.

To execute the UHF Allotment Program the user should call upon XUHF. The latter will set all input/output ports as well as run the program.

III- THE INPUT DATA FILE "DATAASS"

Requests and Protected Channels

```
100.000     CHRIS              BC       4927001181229 42 1500
101.000     CHRIS              BC       4927001181229 42 1500
102.000     CHRIS              BC       4927001181229 42 1500
103.000     CHRIS              BC       4927001181229 42 1500
104.000                                                  +0001
395.000                                                  -0001
396.000
400.000  26ARMSTRONG           BC       5027001191200 22 1001
401.000  49ASHCROFT            BC       5043001211700 22 1002
402.000  14CAMPBELL RIVER      BC       5001001251500 22 1003
403.000  51CAMPBELL RIVER      BC       5001001251500 22 1003
404.000  41CASTLEGAR           BC       4919001174000 22 1004
405.000  14CHILLIWACK          BC  CBUF4906361215047 22 1005
```

Each request must be entered into the data file according to the following format:

```
1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8
|Blank|Channel|  City name  |Prov|Call sign|  Latitude  |  Longitude  |Blank|Class|Zone|  Town number  |
```

For channel REQUESTS, columns 2 and 3 are left BLANK. For channels which have to be protected, columns 2 and 3 indicate the correct channel.

Columns 24 to 27 are left BLANK to indicate a vacant allotment or are given a four letter call sign to show that a specified site is being proposed. Since it is often the case that the exact location of a transmitter is unknown, it is specified that the transmitter will be anywhere inside a certain circle. The center of the circle is generally the post office location in the town. The diameter of the circle is a program parameter. A diameter of FLEXC (default: 10 miles) is used for co-channel interference; a diameter of FLEXT (default: 5 miles) is used for adjacent channel interference. Maximum flexibility only occurs between two allotments. If one or both have a call sign, the flexibility is reduced to one-half or to nil.

Column 42 indicates the class by a number code: Class C stations are shown as 3, class B as 2, class A as 1 and Low Power stations appear as 4. A U.S. station is shown as a BLANK but the parameters used are those of a class C by default.

Column 43 contains a 1 or a 2 to reflect the geographical situation of the channel; Zone 1 denotes a "high density" area.

Columns 44 to 48 must show a 5-digit number. A different number is given to each town; up to 09999 for Canadian towns. All U.S. protected channels must have an associated town number equal to or above 13000.

Whenever more than one request exist in the same town it is imperative that the town numbers be identical.

Channel requests can be arranged into as many as 8 different priority groups. This is done by inserting a line containing +0001 in columns 44 to 48 to separate each priority group. When all requests are entered into the data file, a line containing -0001 (columns 44 to 48) must be inserted, followed by a completely BLANK line. Then the protected channels are entered and they are followed by a completely BLANK line which signals the end of the UHF data file.

Distances

"Taboo Distances" refer to the minimum distance permitted between transmitters.

The first 32 lines of the UHF data file (DATAASS) contain the Canadian Taboo Distances: Presentation of the data is such that the lines represent Taboo Distances from -15 through +15, line 16 reflecting the co-channel taboo for zone 2 and line 32 reflecting the co-channel taboo for zone 1. These 32 lines also contain 16 columns. The latter represent the Taboo Distances between each of the four classes of stations and all the other classes alternatively. The order that is followed is A-A, A-B, A-C, A-LP, B-A, B-B, B-C, B-LP, C-A, C-B, C-C, C-LP, LP-A, LP-B, LP-C and LP-LP such that the first member of the couple represents the class of the protected channel and the second member of the couple that of the requested channel.

Line 33 of the data file contains the U.S. Taboo Distances in the following order: ±1, ±2, ±3, ±4, ±5, ±6, ±7, ±8, ±9, ±10, ±11, ±12, ±13, ±14, ±15, co-channel zone 1 and co-channel zone 2.

Lines 34 to 39 of DATAASS contain distance tables from B.P.5, issue 2, 1962 ed. which give North-South distance in miles per degree of latitude at a certain latitude and the East-West distance in miles per degree of longitude at a given longitude.

Lines 40 to 71 give the Taboo Distances that are required when co-siting of regular or low-power stations (of the same class) is involved. The lines are for Taboo -15 through +15 and the columns are for classes A-A, B-B, C-C and LP-LP respectively.

All distances contained in the UHF data file are in miles. Furthermore, Taboo Separations are now being revised by D.O.C. and thus are subject to further modifications.

IV- OVERVIEW OF THE PROGRAM

Main program

The program reads and stores information about towns in the study area. It does so by reading the data file where it finds the pertinent information with respect to the protected channels and the new requests as well as the distance tables.

Once the initial conditions (initialization) have been satisfied the program proceeds to satisfy the requests, one at the time. It handles the requests by priority, satisfying all requests at the highest priority first and continuing through lesser priority requests. The highest priority has the lowest priority number. Within each priority the worst town (the one first chosen for allotment) is the one which has the most unfavourable, hence the lowest, ratio of number of available open channels to number of unsatisfied requests.

The number of available open channels at a town is usually less than the number of open channels because, in general, some open channels would interfere with each other and therefore could not be allotted simultaneously.

The algorithm used to determine the number of available channels is only an approximate of the true value. It takes the lowest numbered open channel, counts it, blocks out all mutually interfering channels, chooses the next remaining open channel, counts it and so on. The actual number of available channels is not less than the number obtained by the program and not greater than the count of open channels.

Since the algorithm to count the number of available channels is destructive of the VALUE array, the portion of the array needed for this count is copied to a separate vector TEST where the count takes place.

If there are no remaining open channels at a town and outstanding requests are present, an error message is produced and the count of requests for that town is reduced to zero and the count of requests at each priority is correspondingly reduced.

"Impacts" follow the "Channel Criteria". A measure of total impact is given for each available channel at the selected town (unavailable channels are given a total impact of zero). This is the total of the impact coefficients corresponding to all allotments which would conflict with the allotment of that channel to the selected town.

The channel selected will be the one with the lowest positive total impact. If there is a "tie", the lowest channel number will be assigned.

The main program then allots the new channel and reassesses the channel importance and the number of available channels at all towns which are affected by the new allotment.

Program limitations

The following parameters limit various aspects of the problems handled by the UHF-TV Allotment Program. Most can be changed by minor program modifications.

(1) Problem size. The maximum number of towns in the study area must not exceed 150.

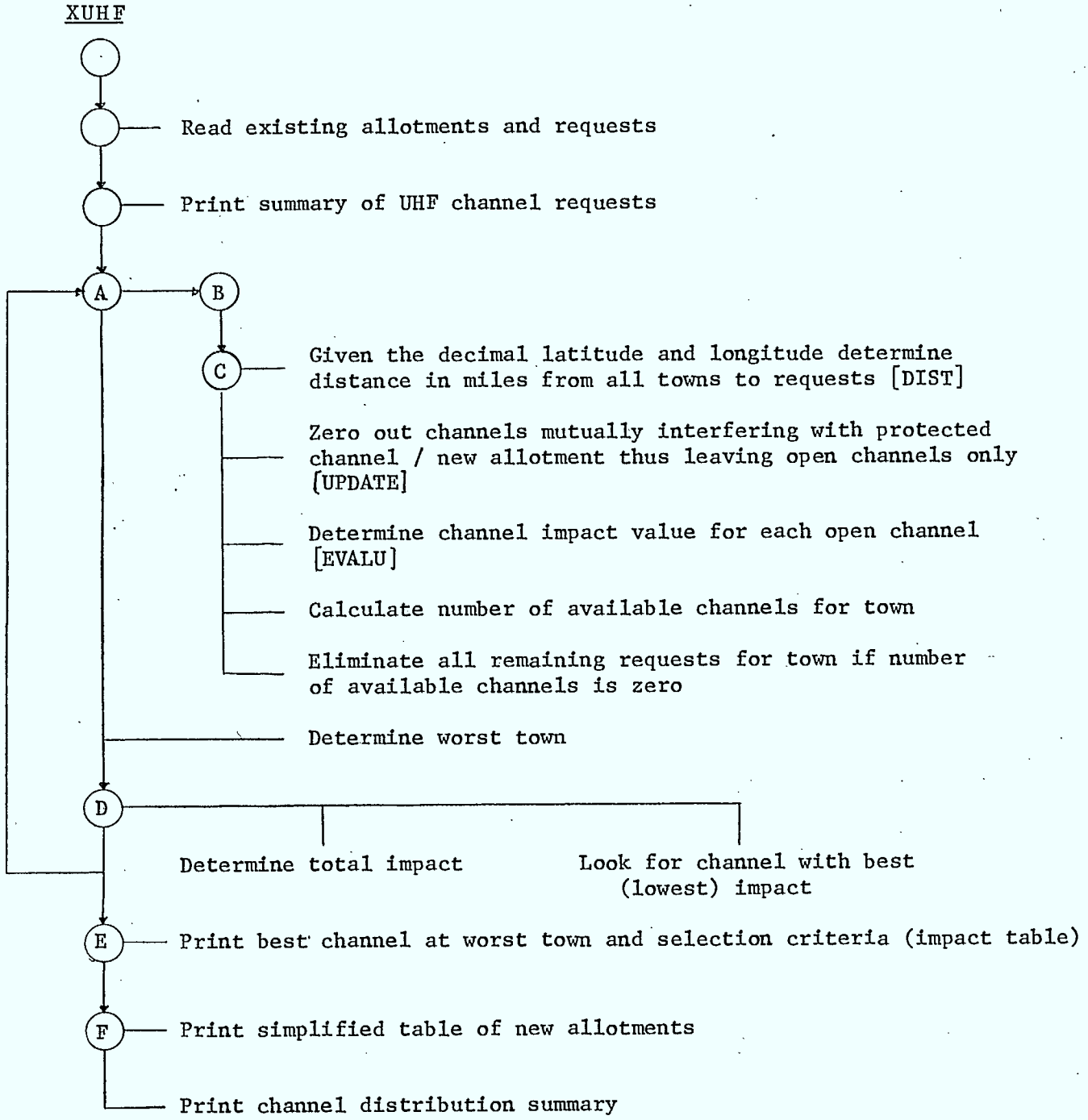
(2) Channels per town. A maximum of eleven new allotments per town is allowed during each run of the allotment program.

(3) Range of channels. The program may allot UHF-TV channels from channel 14 to 83 unless otherwise specified by the user. Usually channel limits range from channel 14 to channel 69.

V - PROGRAM OUTPUT

The program user can choose between two main possible output formats. The maximum output gives the detailed channel impact matrix for each channel and for each town following the priority scheme. The minimum output of the system consists of a simplified progress check on the new allotments. In both cases an additional table giving the channel distribution summary is printed.

A very concise flow diagram summarizing the rationale followed by the UHF-TV Allotment Program is given in Figure 1. The three subroutines called upon by the main program are referred to as well in Figure 1. They are SUBROUTINES DIST, UPDATE and EVALU.



A - For each priority at which requests exist

B - For all requests outstanding at this priority

C - If town under consideration is different from previous town

D-- For each open channel at the worst town

E-- If print option 1

F - If print option 2

Figure 1 : Flow of the UHF-TV Allotment Program

APPENDIX A : GLOSSARY

adjacent channels - two different channels which may interfere with each other

available channels - an estimate of the maximum number of new allotments which could be made at a town without mutual interference

best channel - the open channel at the worst town having the lowest impact

channel impact value - a numeric measure of the relative importance of loosing a given open channel at a given town due to a conflicting new allotment

co-channel - two allotments on the same channel

impact - for a given channel at a given town, the sum of the channel impact values of all conflicting open channels

open channel - for a given town, a channel which could be assigned without conflict with existing allotments

request - a number of new allotments desired for a given location

taboo - the minimum distance between two allotments on the same or adjacent channels necessary to avoid interference

town - a location at which one or more channels are allotted or at which new requests have been made. Each town has a unique 5-digit town code, a name and a location (latitude and longitude)

worst town - the town having the lowest non-zero ratio of number of available channels to unsatisfied requests

APPENDIX B : USEFUL PROGRAM VARIABLES

DENOM - Number of open channels which interfere with the channel being calculated

RATIO (150) - The ratio of maximum number of channels remaining for allotment and number of new allotments desired for each town i

TEST (56) - Temporary array to hold channel (whose index is i) impact values for a town when counting number of available channels as the counting process is destructive

TIMP (56) - Temporary array to hold channel (whose index is i) impact values for a town when counting the total channel impact as the counting process is destructive

VALUE (56,4,150) - The channel impact values. The inverse of the number of channels at town k which would mutually conflict with the channel whose class is j and whose index is i. If = 0.0 use of the channel has been precluded by some previous allotment.

MCH (11,150) - A list of channels newly allotted to town j ; by channel number

APPENDIX C: PROGRAM PRINT OUT (SCOSUHF)

APPENDIX F : DETAILED PROGRAM LOGISTICS

DBC-P Modified Version of UHF-TV
Allotment Program

SET F : 200 / DATAASS ; IN — To read the DATA file

SET F : 201 / UHFOUT ; OUT — As an output DUMP file

Reference line number	Comments
8 - 33.1	Dimensioning of arrays and declaring of parameters
21	Definition of classes | ' ', 'A', 'B', 'C', 'LP' | where ' ' or "BLANK" represents U.S. station
26 - 27	Enter channel limits (LOW , HIGH)
24 - 45	Initialization of several variables (VALUE = 1)
46	Elimination of channel 37 from plan (i.e. VALUE = 0)
47 - 55	Read in Canadian and U.S. Taboo distances
56 - 61	Read in distance tables as listed in B.P.5 issue 2, 1962 (miles per degree of latitude and miles per degree of longitude)
61.1 - 61.2	Read in Canadian Taboo distances allowing for co-siting
62 - 73	Further initialization

74 - 77	Read in each channel request
78 - 119	Totalize number of requests per priority per town
89 - 90	Calculate latitude and longitude (in decimal degrees) of every town for which there exists a channel request
121 - 130	When last request under lowest priority group (highest priority number) is read, tabulate the requests as a summary of UHF channel requests
131 - 139	Possibility of wiping off any other channel (than channel 37) by entering town and channel number (then VALUE = 0)
140	Prints the action that is taken at this stage in the program
153 - 164	Read in all protected channels and measure effect on all towns for which there exists a channel request
153 - 154	Read in each protected channel from DATAASS
155 - 157	Calculate latitude and longitude (in decimal degrees) of every town which has a protected channel
158	If protected channel is in U.S. town, class is defaulted to a Canadian "C" class
159 - 161	Call for subroutine DIST
363 - 386	Subroutine DIST Given the decimal latitude and longitude of all towns, determine the distance in miles from each protected channel to every request following the procedure outlined in B.P.5 issue 2, 1962. The algorithm makes allowances for the spheroid shape of the earth. If distance is greater than 250 miles default to that mileage separation

159 - 162	Call for subroutine UPDATE
387 - 433	Subroutine UPDATE Given a protected channel at a given location determine its effects on the channels in the towns for which there exists a channel request. If the two are mutually interfering, block the channels in those towns
(399.1 - 399.14)	Given the distance between the protected channels and the towns for which there exists a request, if the distance is less than or equal to 40 meters (0.02485 miles) the 2 channels are considered to be co-sited and their fields at 1 km from the transmitter are not permitted to differ by more than 0.5 dB
(394 - 397)	Determine if protected channel is in Canada or in the U.S.
(400 - 407)	Determine FLEX (full, half or none) to be used given each couple of protected channel - requested channel
(409 - 413)	Determine which Taboo table is to be consulted: * REQ if protected channel is in U.S. * REQD if protected channel and requested channel are in Canada * REQC if co-siting is involved If the protected channel is a U.S. low-power station then the Canadian Taboo table is used. In order to co-site two channels they must be of the same class
(414 - 421)	Check for zone in case of co-channel and read corresponding line of Taboo tables: Lines 16 and 55 for zone 2 in the non co-sited and co-sited case respectively, and lines 32 and 71 for zone 1
(417 - 422)	Given above factors determine exact separation required for each Taboo
(423 - 431)	If actual distance between protected channel and request is less than that required, zero out that channel (i.e. VALUE = 0)

162	At this point in the program non zero entries in array VALUE indicate open channels (Initialized VALUE = 1)
159 - 163	Call for subroutine EVALU
434 - 460	Subroutine EVALU For each town for which there exists a request, determine the channel impact value for each open channel in that town (now VALUE = 1/DENOM) For each town where there exists a request and for every open channel in that town determine how many other open channels in that town would interfere with it should they be alloted simultaneously. For open channel X, $DENOM = \frac{1}{(self)} + \sum_{\text{Taboo to X (in that town)}} \text{other open channel}$
165 - 170	Choice of output is given
172 - 224	For each priority, the "channel criteria" are used to select the town to receive the next allotment. Four numbers are reported for each town. (1) Total number of outstanding requests at the current priority (2) Total number of requests (3) Maximum number of channels available at this town * (4) Ratio of (3) to (2), or zero if (1) is zero * The algorithm used to determine the number of available channels is only an approximate of the true value. It takes the lowest numbered open channel, counts it, blocks out all mutually interfering channels, chooses the next remaining open channel, counts it, and so on.
(209 - 220)	Select worst town. The town selected will have the lowest positive ratio of available-to-requests. If two towns under the same priority have the same ratio, then the one with the most requests is handled first

225 - 228

Prints the action taken at this point in the program

229 - 231

Call subroutine DIST to determine the distance in miles from worst town to all other requests

232 - 275

Evaluate total impact for each channel at the worst town. It is the sum of the impact values of each open channel blocked (mutually interfering) with the channel under consideration. Determination on whether a channel at another town under request would be blocked is made on the same basis as in subroutine UPDATE

The sequence of nested DO loops involved for the final impact figure is as follows:

```
DO I    to calculate impact of each channel I
        for which  VALUE = 0
DO N2   look at each town under request
DO ICL  and for all possible classes at that town
DO MCH  look at each Taboo related to channel I
```

then calculate

```
TIMP = TIMP(I) + VALUE(ICHA,ICL,N2) * WE * CW
```

where TIMP(I) = 0 initially

WE = weighting factor = 0.5 for class LP
1 for class A
2 for class B
3 for class C

273 - 275

Allot new channel.

Choose best channel i.e. the open channel at the worst town having the lowest impact. This is done systematically by taking the lowest numbered open channel looking at its impact value, going to the next open channel above comparing its impact value to that of the channel below it and keeping the channel with lowest impact

278 - 293

Formatting and writing of impact table for maximum program output i.e. option 1

294 - 309	For each and every new allotment reassess the channel importance and the number of available channels at all towns under request which are affected by the new allotment. Thus new allotments are added to the list of protected channels
310	Do all of the above for next worst town
311 - 323	Formatting and writing of minimum program output i.e. part of option 1 and option 2
324 - 329	Writing new channel allotment on UHFOUT file
330 - 360	Calculate, format and write channel distribution summary
361	Stop
362	End

TYPE SCOSUHF

```
TY

C     DBC-P MODIFIED VERSION OF UHF-TV ALLOTMENT PROGRAM
C     NOTE: SET DEVICE 200 TO READ THE DATA FILE
C     NOTE: SET DEVICE 201 AS AN OUTPUT DUMP FILE
C     CLASS A, B, & C IN CANADA: FULL PROTECTION TO U.S.A.
C     INCORPORATES BUILT-IN FLEX OF 10 & 5 MILES
C     ELIMINATES ALL CHANNEL 37S FROM THE PLAN
C     ALSO CAN DELETE ANY OTHER CHANNEL AS REQUIRED
      DIMENSION ALAD(150),ALAM(150),ALAS(150),ALOD(150),ALOM(150),
     * ALOS(150)
      INTEGER*4 MCH(11,150),NAVAIL(150,4),NWANT(150,9),OPT,MCL(9,150)
     * ,MCLA(11,150),CO
      REAL*4 LAT(75),LON(75)
      DIMENSION TIMP(71)
      DIMENSION TEST(70),RATIO(401),PLACE(6)
      COMMON /A/ LAT,LON
      COMMON /B/ CF(3,150),MF(2,150),REQD(-15:16,4,4),FC,REQ(0:17)
     * ,REQC(-15:16,4),FT,KAL(150),KALL,FLEXC
      COMMON/C/PLAC(6,150),JOPUT
      COMMON/D/VALUE(70,4,150),IBOT,ITOP
      INTEGER CLA,CLASS,NALLO(150),IAVAIL(150)
      INTEGER KLASS(0:4) /' ','A','B','C','LP' /
      INPUT=200
      JOPUT=105
      LIMAF=150
      NCHA=0
      OUTPUT'ENTER CHANNEL LIMITS (LOW, HIGH)'
      INPUT(101)ILOW,IHIGH
      FC=10.
      FT=5.
      IBOT=ILOW-13
      ITOP=IHIGH-13
      CW=1.
      PLW=0.
      CO=1
C     INITIALIZATION
C
      DO 14  I=1,LIMAF
      DO 99 K=1,11
      MCLA(K,I)=0
   99 MCH(K,I)=0
      DO 98 L=1,9
      MCL(L,I)=0
   98 NWANT(I,L)=0
      DO 14 J=IBOT,ITOP
```

```
44.000          DO 14 CLA=1,4
45.000          VALUE(J,CLA,1)=1.0
46.000 14       IF(J+13.EQ.37.) VALUE(J,CLA,1)=0.0
47.000 C
48.000 C        READ IN TABOOS AND DISTANCE PARAMETERS.
49.000 C
50.000          READ(INPUT,501)(((REQD(I,J,K),J=1,4),K=1,4),I=-15,16)
51.000 501      FORMAT(16F5.1)
53.000          READ(INPUT,502)(REQ(I),I=1,17)
54.000 502      FORMAT(17F6.1)
55.000 1006     WRITE(JOPUT,502)(REQ(I),I=1,17)
56.000          READ(INPUT,203)(LAT(I),I=35,75)
57.000   203    FORMAT(16F5.3)
58.000          DO 215 I=1,LIMAF
59.000          DO 215 J=1,2
60.000   215    MF(J,I)=0
61.000          READ(INPUT,203)(LON(I),I=35,75)
61.100          READ(INPUT,205)((REQC(I,J),J=1,4),I=-15,16)
61.200   205    FORMAT(4F5.1)
62.000          N1=1
63.000          NGROUP=1
64.000          LASTAF=LIMAF
65.000          LASTRQ=0
66.000          NR=1
67.000          ID=0
68.000          I=1
69.000    18    IF(LASTRQ)718,718,10
70.000   718    IF(MCH(1,N1))10,10,16
71.000    16    ICHA=MCH(1,N1)-13
72.000          VALUE(ICHA,CLASS,1)=0.0
73.000          MCH(1,N1)=0
74.000    10    READ(INPUT,301)MCH(1,NR),(PLAC(J,NR),J=1,5),KAL(NR),
75.000       1ALAD(NR),ALAM(NR),ALAS(NR),ALOD(NR),ALOM(NR),ALOS(NR),
76.000       5CLASS,MF(2,NR),MF(1,NR)
77.000   301    FORMAT(I3,6A4,3F2.0,F3.0,2F2.0,I2,I1,I5)
78.000          N1=NR
79.000          IF(MF(1,NR)-1000)11,11,13
80.000    13    IF(LASTRQ)15,15,114
81.000    15    IF(ID)210,210,216
82.000   216    DO 19 I=1,ID
83.000          IF(MF(1,NR)-MF(1,I))19,17,19
84.000    17    NWANT(I,9)=NWANT(I,9)+1
85.000          NWANT(I,NGROUP)=NWANT(I,NGROUP)+1
86.000          MCL(NGROUP,I)=CLASS
87.000          GO TO 18
88.000    19    CONTINUE
89.000   210    CF(1,NR)=ALAD(NR)+(ALAM(NR)*60.+ALAS(NR))/3600.
90.000          CF(2,NR)=ALOD(NR)+(ALOM(NR)*60.+ALOS(NR))/3600.
91.000          NWANT(NR,9)=1
92.000          NWANT(NR,NGROUP)=1
93.000          MCL(NGROUP,NR)=CLASS
```

APPENDIX D: PARTIAL DATA FILE PRINT OUT (DATAASS)

18.0 25.0 41.0 12.0 31.0 35.0 51.0 16.0 45.0 50.0 65.0 29.0 12.0 16.0 29.0 10.0
18.0 20.0 26.0 10.0 30.0 32.0 38.0 12.0 45.0 47.0 50.0 18.0 10.0 12.0 18.0 9.0
.0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
.0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
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6.0 9.0 14.0 5.0 9.0 11.0 17.0 7.0 14.0 17.0 20.0 12.0 5.0 7.0 12.0 4.0
18.0 28.0 43.0 15.0 28.0 38.0 53.0 24.0 43.0 53.0 60.0 38.0 15.0 24.0 38.0 9.0
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.0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0
10.0 20.0 34.0 10.0 10.0 20.0 34.0 20.0 10.0 20.0 34.0 34.0 10.0 20.0 34.0 5.0
4.0 6.0 12.0 3.0 6.0 8.0 14.0 6.0 12.0 14.0 20.0 11.0 3.0 6.0 11.0 2.0
4.0 6.0 12.0 3.0 6.0 8.0 14.0 6.0 12.0 14.0 20.0 11.0 3.0 6.0 11.0 2.0
18.0 30.0 42.0 17.0 30.0 35.0 45.0 29.0 42.0 45.0 55.0 42.0 17.0 29.0 42.0 9.0
63.0 100.0 146.0 101.0 100.0 113.0 160.0 115.0 146.0 160.0 175.0 129.0 101.0 113.0 129.0 75.0
18.0 30.0 42.0 17.0 30.0 35.0 45.0 29.0 42.0 45.0 55.0 42.0 17.0 29.0 42.0 9.0
4.0 6.0 12.0 3.0 6.0 8.0 14.0 6.0 12.0 14.0 20.0 11.0 3.0 6.0 11.0 2.0
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18.0 28.0 43.0 15.0 28.0 38.0 53.0 24.0 43.0 53.0 60.0 38.0 15.0 24.0 38.0 9.0
6.0 9.0 14.0 5.0 9.0 11.0 17.0 7.0 14.0 17.0 20.0 12.0 5.0 7.0 12.0 4.0
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18.0 30.0 45.0 17.0 20.0 32.0 47.0 29.0 26.0 38.0 50.0 45.0 17.0 29.0 45.0 9.0
18.0 31.0 45.0 16.0 25.0 35.0 50.0 30.0 41.0 51.0 65.0 45.0 16.0 30.0 45.0 10.0
53.0 82.0 126.0 101.0 82.0 95.0 140.0 113.0 126.0 140.0 155.0 129.0 101.0 113.0 129.0 75.0
55.0 20.0 20.0 20.0 20.0 .0 60.0 20.0 .0 .0 .0 .0 .0 60.0 75.0 155.0 175.0
68.93468.94568.95768.96868.98068.99369.00469.01769.02969.04169.05369.06669.07869.09069.10369.114
69.12769.13969.15069.16269.17469.18569.19669.20869.21969.22969.24169.25069.26069.27069.28069.290
69.29869.30769.31669.32469.33169.33969.34669.35369.359
56.72556.02655.31154.57853.82953.06352.28051.46250.66849.88949.09448.13547.26046.37245.46844.551
43.62042.67641.71940.74839.76538.77037.76336.74535.71534.67433.62232.56031.48830.40629.81428.215
27.10525.98824.86223.72922.58921.44120.28619.12617.959
18.0 35.0 65.0 10.0
.0 .0 .0 .0
.0 .0 .0 .0
.0 .0 .0 .0
.0 .0 .0 .0
.0 .0 .0 .0
.0 .0 .0 .0
.0 .0 .0 .0
18.0 38.0 60.0 9.0
.0 .0 .0 .0
.0 .0 .0 .0
.0 .0 .0 .0
4.0 8.0 20.0 2.0
.0 .0 .0 .0
18.0 38.0 55.0 9.0
63.0 113.0 175.0 75.0
18.0 38.0 55.0 9.0
.0 .0 .0 .0
4.0 8.0 20.0 2.0
.0 .0 .0 .0
.0 .0 .0 .0
.0 .0 .0 .0
18.0 38.0 60.0 9.0
.0 .0 .0 .0
.0 .0 .0 .0
.0 .0 .0 .0
.0 .0 .0 .0
.0 .0 .0 .0
.0 .0 .0 .0
.0 .0 .0 .0
18.0 35.0 65.0 10.0
53.0 95.0 155.0 75.0

APPENDIX E: SAMPLE RUN (XUHF)

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                                  SUMMARY OF UHF CHANNEL REQUESTS
                                  -------------------------------

NUMBER  CENTRE  LOCATION          PROV   LATITUDE  LONGITUDE     PR#1 PR#2 PR#3 PR#4 PR#5 PR#6 PR#7 PR#8 TOTAL

   1      5056 OSHAWA             ONT    43 54  0  78 51  0       2    1    0    0    0    0    0    0    3
   2      3042 NORTH BATTLE       SASK   52 47  0 108 17  0       0    2    0    0    0    0    0    0    2
   3     10068 WESLEYVILLE        NFLD   49  6 44  53 35 30       0    3    0    0    0    0    0    0    3
WANT TO WIPE OFF ANY PARTICULAR CHANNEL?
ENTER TOWN NUMBER & CHANNEL
EXIT BY PRESSING "RETURN" TWICE
?
?
** CHANNEL IMPACT MATRIX NOW BEING COMPUTED!

   * CHANNEL IMPACT MATRIX COMPUTED! *

FOR DETAILED IMPACT MATRIX FOR EACH CHANNEL, ENTER 1
FOR SIMPLIFIED PROGRESS CHECK ON ALLOTMENTS, ENTER 2
OTHERWISE, PRESS "RETURN"
?1

 WORST CASE EXISTS AT  5056  OSHAWA
 THE CHANNEL IMPACTS ARE AS FOLLOWS:
(14)   .00   .00   .00   .00   .00*   .00   .00   .00   .00   .00
(24)   .00   .00   .00   .00   .00*   .00   .00   .00   .00   .00
(34)   .00   .00   .00   .00   .00*   .00   .00   .00   .00   .00
(44)   .00   .00   .00   .00   .00*   .00   .00   .00   .00   .00
(54)   .00   .00   .00   .00   .00*   .50   .00   .00   .00   .00
(64)   .00   .00   .00   .00   .00*   .00

 ** CHANNEL  59LP ALLOTED TO OSHAWA

          - - PRIORITY GROUP  1 COMPLETED

 WORST CASE EXISTS AT  10068  WESLEYVILLE
 THE CHANNEL IMPACTS ARE AS FOLLOWS:
(14)   .00   .00   .00   .00   .00*   .00   .00   .00   .00   .00
(24)   .00   .00   .00   .00   .00*   .00   .00   .00   .00   .00
(34)   .00   .00  3.08   .00   .00*   .00   .00   .00   .00   .00
(44)   .00   .00  2.02   .00   .00*   .00   .00  6.01   .00   .00
(54)  7.02   .00   .00  4.44  7.01*   .00  5.50  6.83  5.56  4.42
(64)   .00  8.90  6.85  4.83  6.45*  6.75

 ** CHANNEL  46LP ALLOTED TO WESLEYVILLE

 WORST CASE EXISTS AT  10068  WESLEYVILLE
 THE CHANNEL IMPACTS ARE AS FOLLOWS:
(14)   .00   .00   .00   .00   .00*   .00   .00   .00   .00   .00
(24)   .00   .00   .00   .00   .00*   .00   .00   .00   .00   .00
(34)   .00   .00  3.43   .00   .00*   .00   .00   .00   .00   .00
(44)   .00   .00   .00   .00   .00*   .00   .00  5.73   .00   .00
(54)  7.79   .00   .00  4.06  7.07*   .00  6.46   .00  4.25  3.82
(64)   .00 10.75  8.56  5.55  5.34*  5.56

 ** CHANNEL  36LP ALLOTED TO WESLEYVILLE

 WORST CASE EXISTS AT  3042  NORTH BATTLE
 THE CHANNEL IMPACTS ARE AS FOLLOWS:
(14)   .00   .00   .00   .00   .00*  1.50   .00   .00   .00   .00
(24)   .00   .00   .00   .00   .00*   .00   .00   .00  3.24   .00
(34)   .00   .00  3.04   .00   .00*  4.05   .00   .00   .00  5.48
(44)  4.50   .00  5.03  5.27   .00*   .00  7.30  6.36  5.05  6.72
(54)   .00   .00   .00  4.98   .00*  6.29  7.64  6.95  6.64  5.30
(64)  6.79  7.87  7.06  6.80  5.62*  4.45

 ** CHANNEL  19LP ALLOTED TO NORTH BATTLE

 WORST CASE EXISTS AT  10068  WESLEYVILLE
 THE CHANNEL IMPACTS ARE AS FOLLOWS:
(14)   .00   .00   .00   .00   .00*   .00   .00   .00   .00   .00
(24)   .00   .00   .00   .00   .00*   .00   .00   .00   .00   .00
(34)   .00   .00   .00   .00   .00*   .00   .00   .00   .00   .00
(44)   .00   .00   .00   .00   .00*   .00   .00   .00   .00   .00
(54)  6.22   .00   .00  4.29  5.77*   .00  6.56   .00  4.61  4.08
(64)   .00  9.53  7.05  5.82  5.61*  6.26

 ** CHANNEL  63LP ALLOTED TO WESLEYVILLE

 WORST CASE EXISTS AT  3042  NORTH BATTLE
 THE CHANNEL IMPACTS ARE AS FOLLOWS:
(14)   .00   .00   .00   .00   .00*   .00   .00   .00   .00   .00
(24)   .00   .00   .00   .00   .00*   .00   .00   .00  3.24   .00
(34)   .00   .00  3.04   .00   .00*  4.05   .00   .00   .00  5.48
(44)  4.50   .00  5.03  5.27   .00*   .00  7.30  6.36  5.05  6.72
(54)   .00   .00   .00  4.98   .00*  6.29  7.64  6.95  6.64  5.30
(64)  6.79  7.87  7.06  6.80  5.62*  4.45

 ** CHANNEL  36LP ALLOTED TO NORTH BATTLE
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- - - PRIORITY GROUP 2 COMPLETED

NEW UHF-TV ALLOTMENT PLAN

CENTRE	LOCATION	PROV	UNSATISFIED REQUESTS	AVAILABLE A	B	C	LP	NEW ALLOTMENTS
5056	OSHAWA	ONT	2	0	0	0	0	59LP
3042	NORTH BATTLE	SASK	0	0	0	7	10	19LP 36LP
10068	WESLEYVILLE	NFLD	0	2	2	2	3	46LP 36LP 03LP

CHANNEL DISTRIBUTION SUMMARY

14 - 54 = 4 66.7 %

55 - 69 = 2 33.3 %

GRAND TOTAL = 6

STOP 0

XEQ TERMINATED