

W280DG - Minor Modification  
New Hampshire Public Radio

REFERENCE 43 04 15 N CH# 280D - 103.9 MHz, Pwr= 0.17 kW, HAAT=33.0 M, COR= 33 M DISPLAY DATES  
70 45 15 W Ave. F(50-10) 40 dBu= 22.5 54 dBu= 9.6 80 dBu= 2.2 100 dBu= .9 DATA 06-09-04  
SEARCH 06-10-04

CH CITY	CALL	TYPE STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	COR(M) INT(km)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
280D Portsmouth	W280DG	APP NH	C	301.7 121.7	0.82 BNPFT20030317JVI	43 04 29 70 45 46	0.170 37	37 23.7	7.1 New Hampshire Public Radio	-29.36*< -27.74*<
280D Portsmouth	W280DG	CP NH	C	301.7 121.7	0.82 BNPFT20030724ABA	43 04 29 70 45 46	0.170 37	37 23.7	7.1 New Hampshire Public Radio	-29.36*< -27.74*<
282D Dover	W282AB	LIC NH	HN	328.5 148.5	18.13 BLFT19921028TA	43 12 35 70 52 16	0.013 116	125 0.3	6.7 New Hampshire Public Radio	11.44 10.50
281B Boston	WBCN	LIC MA	CN	198.6 18.6	84.78 BLH19911018KD	42 20 50 71 04 59	21.000 241	258 77.8	65.8 Hemisphere Broadcasting Co	0.52 6.11
279C North Conway	WPKQ	LIC NH	DEY	341.8 161.8	140.48 BLH19881228KA	44 16 14 71 18 15	22.500 1094	1938 131.1	90.2 Citadel Broadcasting Compa	2.92 41.03
279C North Conway	WPKQ.C	CP NH	EY	341.8 161.8	140.48 BPH19991109ABV	44 16 14 71 18 15	22.500 1094	1938 131.1	90.2 Citadel Broadcasting Compa	2.92 41.03
279D Gloucester	AP279	APP MA	C	170.6 350.6	50.26 BNPFT20030317DOP	42 37 28 70 39 15	0.027 88	92 9.9	7.0 Edgewater Broadcasting Inc	33.66 33.68
279D Gloucester	AP279	APP MA	C	170.6 350.6	50.26 BNPFT20030829ADJ	42 37 28 70 39 15	0.001 88	92 4.3	3.0 Edgewater Broadcasting Inc	39.23 37.67
277D Bideford	W277AM	CP ME	C	22.3 202.3	52.69 BNPFT20030822AAD	43 30 33 70 30 22	0.010 134	168 0.2	6.7 Radio Assist Ministry, Inc	46.04 45.05
277D Barnstead	W277AV	CP NH	DH	306.8 126.8	55.46 BNPFT20030826AIA	43 22 04 71 18 10	0.000 97	303 0.0	0.0 New Hampshire Gospel Radio	49.02 54.54
282D Concord	W282AF	LIC NH	CN	286.8 106.8	58.21 BLFT19970421TE	43 13 10 71 26 25	0.003 108	323 0.1	4.4 Concord Bible Fellowship	51.65 52.86
227D Andover	W227AM	LIC MA	C	219.3 39.3	59.81 BLFT20010525ADA	42 39 14 71 13 02	0.003 191	212 5.8	5.8 Greater Boston Radio, Inc.	3.2R 56.6M

ERP and HAAT are on direct line to and from reference station.

\*\*\*Affixed to 'IN' or 'Out' values = site inside protected contour. "<" = Contour Overlap

### HOW TO READ THE FM COMPUTER PRINT-OUT

The computer printout should be self-explanatory for the most part. The parameters of the station being checked, (reference station) are printed in the heading. The 60 dBu protected contour is predicted from the Commission's F(50-50) table, while the 40, 54, 80 and 100 dBu contours are interference contours derived from the Commission's F(50-10) table. Contour distances are in kilometers and are predicted using spline interpolation from data points identical to those published in Report No. RS 76-01 by Gary C. Kalagian. Critical contour distances are determined using the Commission's TVFMINT FORTRAN subroutine. When interference contour distances are less than 16 kilometers the F(50-50) tables are used. If signal contour distances are less than 1.6 km the free-space equation is used.

The column listed "**\* IN \***" is the sum of the reference station's 60 dBu protected contour and the data file station's interference contour subtracted from the distance between the stations. (All distances are derived by the method detailed in Sec. 73.208 of the Rules and Regulations as amended in Docket 80-90.) Therefore, the column is a measure of incoming interference. Negative distances in this column indicate the presence of interference. Listed antenna heights are the average heights of eight standard radials as found in the Commission's records unless otherwise noted, in which case the specific antenna heights and the DA power, if applicable, along the straight line azimuths between the reference station and the database station are used and visa versa. The column labeled "**\* OUT \***" shows the distance in kilometers of overlap or clearance between the reference station's interference contour and the database station's protected contour. Negative distance figures in this column indicate outgoing overlap interference.

Under the "AZIMUTH" column, the first row of numbers indicate the bearings from True North of the data base stations in relationship with the reference station, while the numbers in the second row indicate the reverse bearings from the database station to the reference station.

The columns labeled "INT" and "PRO" hold the distance in kilometers of the appropriate interference contour and the protected contour of a data base station.

For I.F. relationships the "IN" and "OUT" columns change their significance. The letter "R" stands for the minimum **required** distance in kilometers, while the letter "M" in the next column follows the **available clear space** separation in kilometers. Minimum separation distances when displayed are taken from Sec 73.207 of the rules as amended. Canadian and Mexican separation distances, U/D ratios and protected contour values are from the US/Mexican Working Agreement and the US/Canada Working Agreement".

The first three letters of the "TYPE" column identify the current FCC status of the stations. The fourth letter will be a "D" if the facility is directional. "Z" indicates a 73.215 directional. An "N" indicates it is a 73.215 station that operates omni. The fifth letter will be an E, H or V depending on the type of antenna polarization. The sixth letter will be a "Y" if the antenna uses beam tilt or an "X" if the commission is not sure, otherwise it will be an "N".

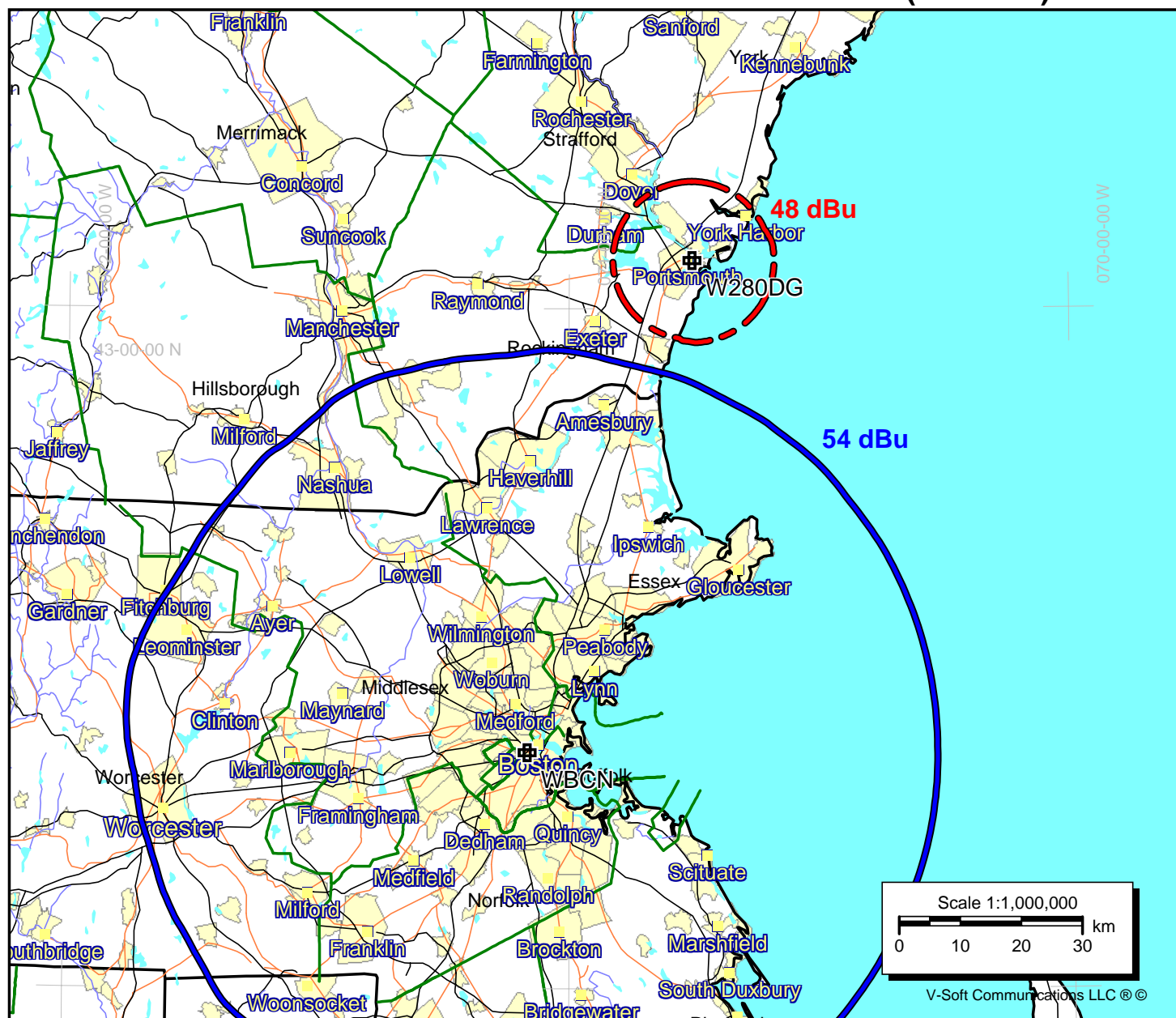
**W280DG (Modified) v. WBCN**

**W280DG - Mod**  
 BNPFT-20030724ABA  
 Latitude: 43-04-15 N  
 Longitude: 070-45-15 W  
 ERP: 0.17 kW  
 Channel: 280  
 Frequency: 103.9 MHz  
 AMSL Height: 33.0 m  
 HAAT: 24.58 m  
 Horiz. Pattern: Omni  
 Vert. Pattern: No  
 Prop Model: None

**WBCN**  
 BLH19911018KD  
 Latitude: 42-20-50 N  
 Longitude: 071-04-59 W  
 ERP: 21.00 kW  
 Channel: 281  
 Frequency: 104.1 MHz  
 AMSL Height: 258.0 m  
 HAAT: 235.0 m  
 Horiz. Pattern: Omni  
 Vert. Pattern: No

**June 10, 2004**

**V**  
 Doug Vernier  
 721 West 1st Street, Suite A  
 Cedar Falls, Iowa 50613  
 Telecommunications Consultants



V-Soft Communications LLC ©

WBCN BLH19911018KD  
Channel = 281B  
Max ERP = 21 kW  
RCAMSL = 258 M  
N. Lat = 42 20 50  
W. Lng = 71 04 59

W280DG  
Channel = 280D  
Max ERP = 0.17 kW  
RCAMSL = 33 M  
N. Lat = 430415  
W. Lng = 704515

Protected  
54 dBu

Interfering  
48 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
001.0	021.0000	0238.2	065.5	240.0	000.1700	0014.5	029.7	34.7
002.0	021.0000	0240.6	065.7	239.1	000.1700	0014.8	028.6	35.3
003.0	021.0000	0242.4	065.9	238.0	000.1700	0014.5	027.6	35.9
004.0	021.0000	0242.8	065.9	236.6	000.1700	0013.8	026.6	36.4
005.0	021.0000	0243.0	065.9	235.1	000.1700	0012.9	025.7	37.0
006.0	021.0000	0242.8	065.9	233.3	000.1700	0013.2	024.8	37.6
007.0	021.0000	0242.8	065.9	231.4	000.1700	0013.5	024.0	38.1
008.0	021.0000	0242.1	065.8	229.3	000.1700	0013.7	023.3	38.7
009.0	021.0000	0241.2	065.8	226.9	000.1700	0013.8	022.6	39.2
010.0	021.0000	0240.4	065.7	224.5	000.1700	0012.3	022.0	39.6
011.0	021.0000	0239.2	065.6	221.8	000.1700	0011.7	021.4	40.0
012.0	021.0000	0238.4	065.5	219.0	000.1700	0011.5	021.0	40.4
013.0	021.0000	0237.9	065.5	216.1	000.1700	0012.0	020.5	40.8
014.0	021.0000	0238.0	065.5	213.1	000.1700	0012.5	020.1	41.1
015.0	021.0000	0238.1	065.5	209.9	000.1700	0012.1	019.7	41.4
016.0	021.0000	0238.9	065.6	206.7	000.1700	0013.2	019.4	41.6
017.0	021.0000	0239.5	065.6	203.4	000.1700	0015.8	019.2	41.8
018.0	021.0000	0240.2	065.7	200.0	000.1700	0019.1	019.1	41.9
019.0	021.0000	0241.3	065.8	196.5	000.1700	0021.9	019.0	42.0
020.0	021.0000	0242.9	065.9	193.0	000.1700	0026.4	018.9	42.0
021.0	021.0000	0244.3	066.0	189.6	000.1700	0029.3	019.0	41.9
022.0	021.0000	0245.1	066.1	186.2	000.1700	0031.8	019.2	42.2
023.0	021.0000	0245.6	066.1	182.9	000.1700	0031.8	019.5	42.0
024.0	021.0000	0245.9	066.2	179.8	000.1700	0032.4	020.0	41.8
025.0	021.0000	0245.8	066.2	176.8	000.1700	0033.0	020.5	41.5
026.0	021.0000	0245.4	066.1	174.1	000.1700	0033.0	021.1	41.1
027.0	021.0000	0245.2	066.1	171.6	000.1700	0033.0	021.7	40.6
028.0	021.0000	0245.4	066.1	169.2	000.1700	0033.0	022.4	40.0
029.0	021.0000	0245.7	066.1	167.0	000.1700	0033.0	023.1	39.5
030.0	021.0000	0246.0	066.2	164.9	000.1700	0033.0	023.9	38.9
031.0	021.0000	0246.8	066.2	162.9	000.1700	0033.0	024.7	38.4
032.0	021.0000	0247.9	066.3	161.0	000.1700	0033.0	025.5	37.8
033.0	021.0000	0248.9	066.4	159.3	000.1700	0033.0	026.4	37.3
034.0	021.0000	0250.1	066.5	157.8	000.1700	0033.0	027.3	36.7
035.0	021.0000	0251.0	066.6	156.3	000.1700	0033.0	028.2	36.2