

1400 Inc. Blue Earth, Minnesota

REFERENCE CH# 222D - 92.3 MHz, Pwr= 0.099 kW, MAX HAAT=81.0 M, COR= 398 M DISPLAY DATES  
 43 40 01 N Average Protected F(50-50)= 9.28 km DATA 08-16-03  
 94 07 19 W Ave. F(50-10) 40 dBu= 30.8 54 dBu= 13.0 80 dBu= 2.9 100 dBu= .7 SEARCH 08-17-03

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*
222D Blue Earth	AP222	APP MN	0.0 180.0	0.00 BNPFT20030312A0Q	43 40 01 94 07 19	0.250 76	398 28.6	11.3 1400 Inc.	-47.32*	-39.96*
220D Fairmont	K220AQ	LIC MN	264.4 84.4	28.51 BLFT19840525MB	43 38 30 94 28 25	0.013 89	432 0.7	5.9 Mankato State University	20.10	21.94
221C3 Waseca	KRUE	LIC MN	54.3 234.3	72.76 BLH20020625AAQ	44 02 46 93 23 03	9.800 166	515 12.1	39.9 Main Street Broadcasting,	5.12	20.78
224C3 Algona	KLGA FM	LIC IA	185.6 5.6	66.85 BLH19951019KB	43 04 05 94 12 08	3.500 146	493 0.7	29.5 Wmmp, Lic	55.20	36.60
222D Springfield	K222AE	LIC MN	316.0 136.0	91.53 BLFT19950512TC	44 15 21 94 55 10	0.250 69	384 29.4	10.8 Prairie Light Christian Ra	45.83	51.28
220A Forest City	KZOW	LIC IA	138.8 318.8	59.44 BLED19971014KZ	43 15 50 93 38 20	0.100 18	412 0.7	5.6 Walдорf College	50.25	53.11
221D Estherville	K221DO	LIC IA	244.4 64.4	64.97 BLFT19950512TD	43 24 47 94 50 46	0.076 62	459 11.5	7.5 Refuge Media Group	46.05	45.90
220D Albert Lea	K220AR	LIC MN	92.2 272.2	59.60 BLFT19840525MC	43 38 37 93 23 02	0.014 42	436 0.7	4.1 Mankato State University	50.90	54.84
222C Oelwein	KOELFM	LIC IA	120.3 300.3	212.57 BLH12345	42 40 53 91 52 52	100.000 604	928 27.8	92.0 Cumulus Licensing Corp.	6.13	92.81
221D Spirit Lake	AP221	APP IA	249.8 69.8	82.98 BNPFT20030317EMP	43 24 20 95 05 01	0.092 146	599 11.5	12.1 Radio Assi st Ministry Inc.	56.99	59.38
223C Golden Valley	KQRSFM	LIC MN	26.8 206.8	173.87 BLH19910814KB	45 03 30 93 07 27	100.000 319	593 12.4	73.8 Kqrs, Inc.	57.95	87.64
219C1 Worthington-marshall	KNSW	LIC MN	280.1 100.1	147.46 BMLED19931019KC	43 53 01 95 55 44	99.000 241	758 0.7	67.4 Minnesota Public Radio	130.22	79.38
221D Windom	AP221	APP MN	285.3 105.3	88.39 BNPFT20030317JCH	43 52 18 95 10 58	0.140 140	567 11.8	13.1 Radio Assi st Ministry Inc.	60.36	63.47
219C1 Rochester	KLSEFM	LIC MN	73.1 253.1	149.17 BLED19980504KG	44 02 28 92 20 25	94.000 313	638 0.7	72.7 Minnesota Public Radio	130.75	75.77
223D Mason City	K223AB	LIC IA	130.2 310.2	93.93 BLFT19931122TL	43 07 07 93 14 22	0.225 75	437 12.1	11.0 Great Comm. Commcns. Of N.	69.68	70.84
225D Mason City	AP225	APP IA	137.9 317.9	94.06 BNPFT20030317EJS	43 02 15 93 20 46	0.250 70	446 0.7	10.9 Radio Assi st Ministry Inc.	84.45	82.50

\*\*\*Affixed to 'IN' or 'Out' values = site inside protected contour.  
 ERP and HAAT are on direct line to and from reference station.

## 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".