

AP228 East Helena, MT  
 Spanish Peaks Broadcasting, Inc

REFERENCE 46 38 08 N 111 44 52 W	CH# 228D - 93.5 MHz, Pwr= 0.075 kw, HAAT=0.0 M, COR= 1344 M Average Protected F(50-50)= 5.24 km Ave. F(50-10) 40 dBu= 17.1 54 dBu= 7.4 80 dBu= 1.7 100 dBu= .6	DISPLAY DATES DATA 04-21-04 SEARCH 05-18-04
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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*
228D East Helena	AP228	APP DV MT	188.5 8.5	4.62 BNPFT20030312BBA	46 35 40 111 45 24	0.000 23	1307 0.0	0.0 Spanish Peaks Broadcasting	-0.62*	-12.45
228D East Helena	AP228	APP DC MT	188.5 8.5	4.62 BNPFT20030829AJL	46 35 40 111 45 24	0.250 28	1312 23.8	7.1 Spanish Peaks Broadcasting	-24.38*	-19.54*
231C Butte	KOPR	LIC CY MT	217.5 37.5	87.99 BLH19880902KA	46 00 23 112 26 28	60.000 228	2545 7.7	61.5 Butte Broadcasting Incorpo	72.26	25.90
227D Boulder	AP227	APP DC MT	215.0 35.0	42.85 BNPFT20030312AZI	46 19 11 112 04 04	0.023 262	1791 16.9	11.6 Spanish Peaks Broadcasting	18.60	20.67
225C1 Great Falls	KLFM	LIC CY MT	20.0 200.0	106.97 BLH19970418KD	47 32 19 111 15 41	100.000 140	1184 6.9	57.2 Ccr-great Falls Iv, Llc	94.87	49.19
229C1 Bozeman	KOBBFM	LIC CN MT	150.3 330.3	120.36 BLH19830411AA	45 41 35 110 58 50	100.000 294	1756 104.5	71.9 Reier Broadcasting Company	10.65	41.05
229C1 Bozeman	KOBBFM	CP CX MT	147.3 327.3	126.73 BPH20020708AAR	45 40 24 110 52 04	100.000 128	2090 84.9	55.4 Reier Broadcasting Company	36.24	63.39
229C1 Conrad	KTZZ	LIC CN MT	358.3 178.3	131.77 BLH19971128KD	47 49 13 111 47 56	100.000 151	1309 88.3	58.6 Jeannine M. Mason	38.26	65.71
227C Missoula	KGGL	LIC CN MT	285.3 105.3	176.81 BLH19950426KA	47 01 57 113 59 31	43.000 409	2338 105.2	71.5 Fisher Radio Regional Grou	58.20	85.16
227D Butte	AP227	APP C MT	217.5 37.5	87.93 BNPFT20030317JRL	46 00 25 112 26 27	0.010 222	2537 12.2	8.7 Radio Assist Ministry Inc.	67.63	67.77

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

### **Spacings Study Key for Use**

The computer printout on the preceding page 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".