



Specification Number
Date
Call Letters
Channel
Location
Antenna Type
Customer

777:1:115901
May 15, 2002
WMED
DT10
Calais, ME
TW-7B10-R
Maine Public Broadcasting Corporation

SPECIFICATION SHEET

Electrical Specifications		Value		Remarks	
		Ratio	dB		
RMS Gain at Main Lobe over Halfwave Dipole	Hpol				
	Vpol				
RMS Gain at Horizontal over Halfwave Dipole	Hpol				
	Vpol				
Peak Directional Gain at Main Lobe over Halfwave Dipole	Hpol	7.7	8.86		
	Vpol				
Peak Directional Gain at Horizontal over Halfwave Dipole	Hpol	7.4	8.69		
	Vpol				
Circularity		+/- 1 dB			
Axial Ratio					
Beam Tilt		0.9 deg			
Average Power DTV		22 kW	13.42 dBk		
Antenna Input: T/L		3 1/8 inch	50 ohm EHT		
Maximum Antenna Input VSWR					
		Channel 1.08:1			
Patterns	Azimuth	TW-O			
	Elevation	16W07009	16W07009-90		
Mechanical Specifications		Metric	English	Preliminary	
Height with Lightning Protector	H4	15.5 m	50.9 ft		
Height Less Lightning Protector	H2	14.3 m	46.9 ft		
Height of Center of Radiation	H3	7.7 m	25.2 ft		
Basic Wind Speed	V	112.6 km/h	70 mi/h		
Force Coeff. x Projected Area	CaAc	4.3 m²	45.8 ft²		
Moment Arm	D1	7.4 m	24.5 ft		
Force Coeff. x Projected Area	CaAc				
Moment Arm	D3				
Pole Bury Length	D2				
Weight	W	3.1 t	6900 lbs		
Radome					
Antenna designed in accordance with AISC specifications for design of structural steel for building as prescribed by TIA/EIA-222-F					

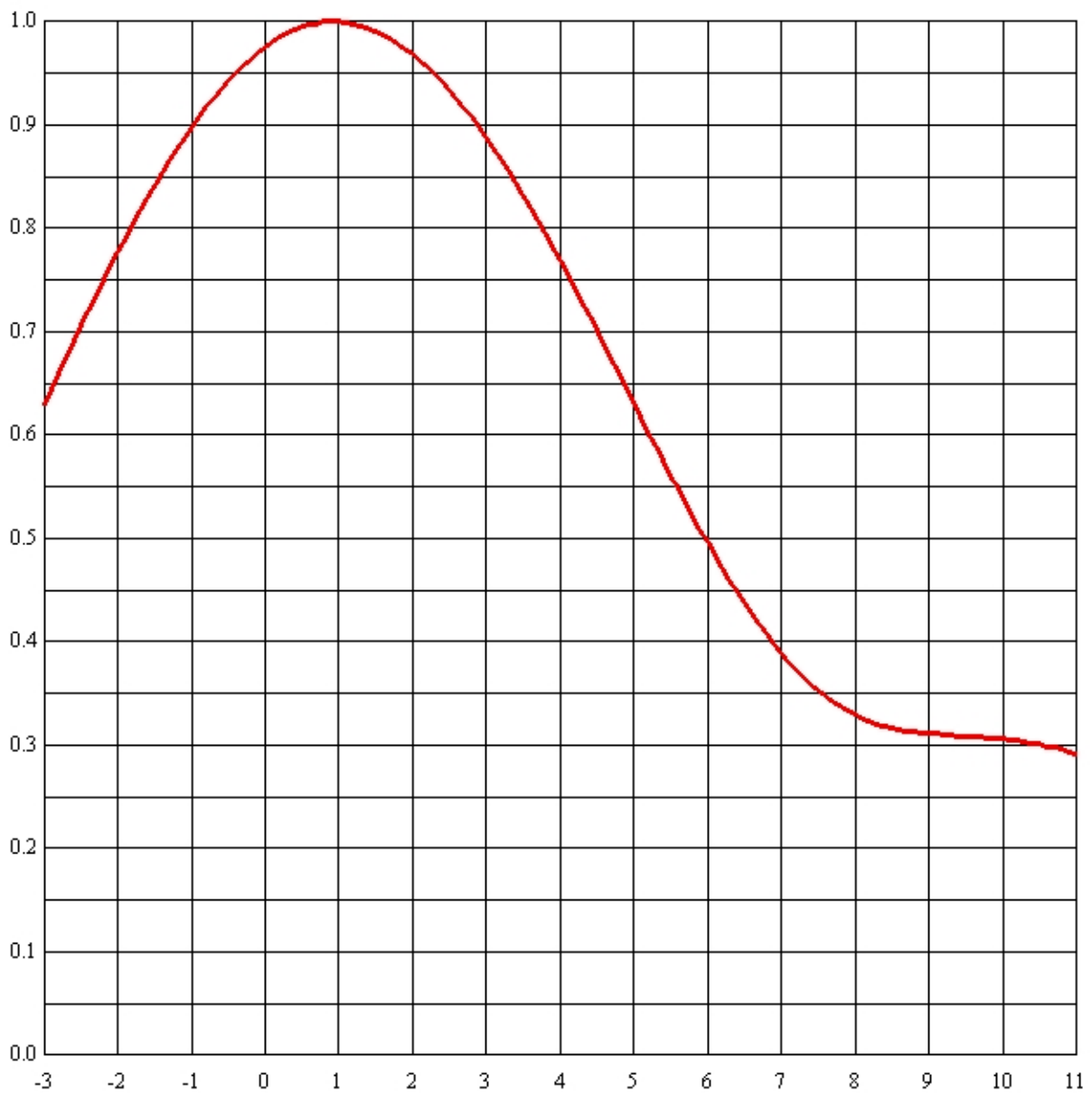


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Elevation Pattern

RMS Gain at Main Lobe	7.0	8.45 dB	Beam Tilt	0.9 degrees
RMS Gain at Horizontal	6.7	8.26 dB	Frequency	195 MHz
Calculated / Measured	Calculated		Drawing#	16W07009-90



Degrees below horizontal.



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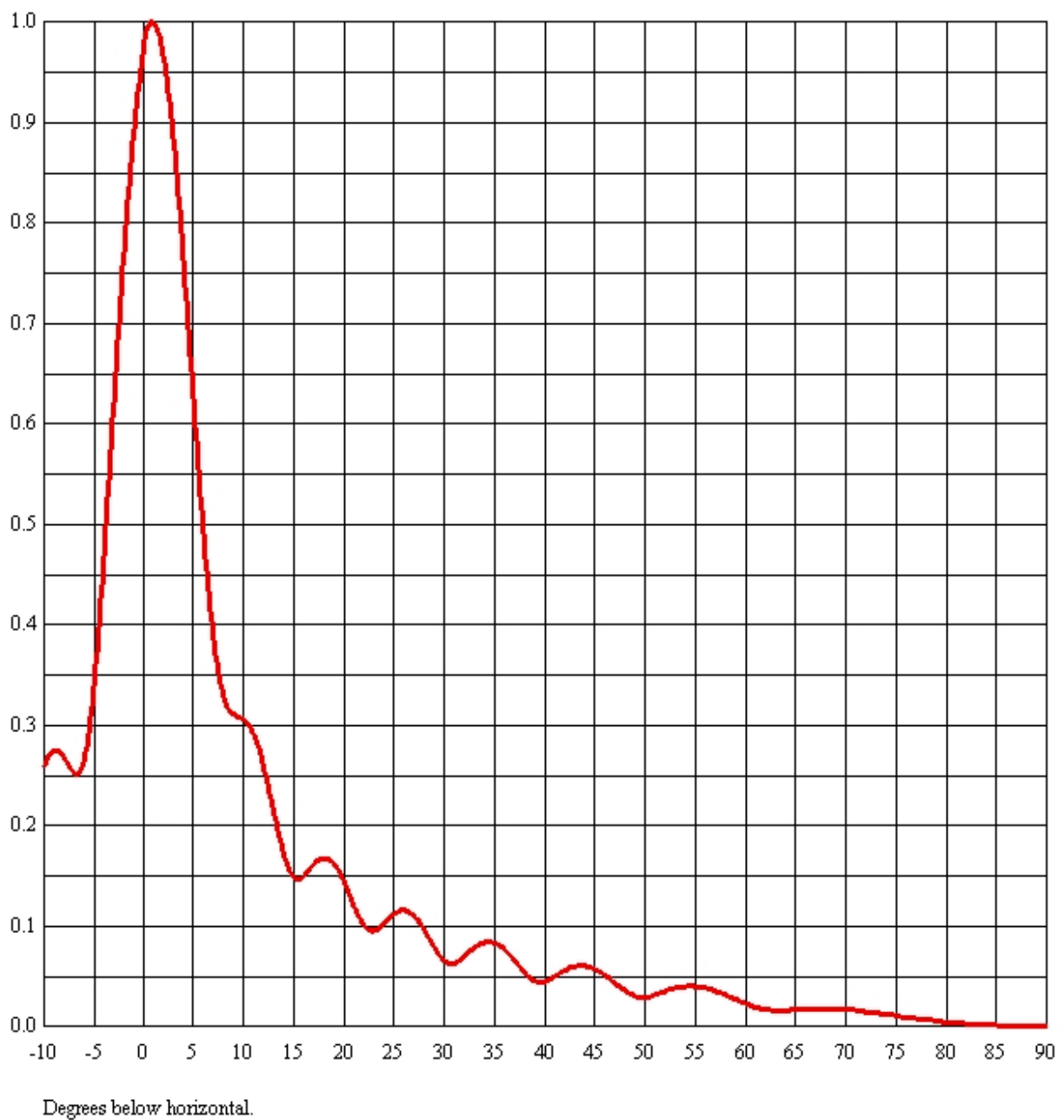
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Elevation Pattern

RMS Gain at Main Lobe **7.0**
RMS Gain at Horizontal **6.7**
Calculated / Measured **Calculated**

8.45 dB
8.26 dB

Beam Tilt **0.9 degrees**
Frequency **195 MHz**
Drawing# **16W07009-90**





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TABULATION OF ELEVATION PATTERN

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.260	2.4	0.942	10.6	0.299	30.5	0.063	51.0	0.032	71.5	0.016
-9.5	0.270	2.6	0.926	10.8	0.296	31.0	0.063	51.5	0.034	72.0	0.015
-9.0	0.275	2.8	0.908	11.0	0.292	31.5	0.066	52.0	0.035	72.5	0.015
-8.5	0.274	3.0	0.888	11.5	0.278	32.0	0.070	52.5	0.037	73.0	0.014
-8.0	0.268	3.2	0.867	12.0	0.260	32.5	0.075	53.0	0.039	73.5	0.013
-7.5	0.260	3.4	0.844	12.5	0.239	33.0	0.079	53.5	0.040	74.0	0.013
-7.0	0.253	3.6	0.820	13.0	0.216	33.5	0.082	54.0	0.040	74.5	0.012
-6.5	0.253	3.8	0.795	13.5	0.193	34.0	0.084	54.5	0.041	75.0	0.011
-6.0	0.266	4.0	0.769	14.0	0.173	34.5	0.085	55.0	0.040	75.5	0.010
-5.5	0.296	4.2	0.742	14.5	0.158	35.0	0.084	55.5	0.040	76.0	0.010
-5.0	0.344	4.4	0.715	15.0	0.149	35.5	0.081	56.0	0.039	76.5	0.009
-4.5	0.405	4.6	0.687	15.5	0.147	36.0	0.077	56.5	0.037	77.0	0.008
-4.0	0.476	4.8	0.659	16.0	0.150	36.5	0.072	57.0	0.036	77.5	0.008
-3.5	0.552	5.0	0.631	16.5	0.155	37.0	0.066	57.5	0.034	78.0	0.007
-3.0	0.630	5.2	0.603	17.0	0.162	37.5	0.060	58.0	0.032	78.5	0.007
-2.8	0.660	5.4	0.575	17.5	0.166	38.0	0.054	58.5	0.030	79.0	0.006
-2.6	0.691	5.6	0.548	18.0	0.168	38.5	0.050	59.0	0.028	79.5	0.006
-2.4	0.721	5.8	0.521	18.5	0.167	39.0	0.046	59.5	0.025	80.0	0.005
-2.2	0.750	6.0	0.496	19.0	0.163	39.5	0.045	60.0	0.023	80.5	0.005
-2.0	0.778	6.2	0.471	19.5	0.155	40.0	0.045	60.5	0.021	81.0	0.004
-1.8	0.805	6.4	0.448	20.0	0.145	40.5	0.047	61.0	0.020	81.5	0.004
-1.6	0.830	6.6	0.427	20.5	0.133	41.0	0.050	61.5	0.018	82.0	0.003
-1.4	0.854	6.8	0.407	21.0	0.121	41.5	0.053	62.0	0.017	82.5	0.003
-1.2	0.877	7.0	0.389	21.5	0.110	42.0	0.056	62.5	0.017	83.0	0.003
-1.0	0.898	7.2	0.373	22.0	0.101	42.5	0.059	63.0	0.016	83.5	0.002
-0.8	0.918	7.4	0.359	22.5	0.096	43.0	0.060	63.5	0.016	84.0	0.002
-0.6	0.935	7.6	0.347	23.0	0.096	43.5	0.061	64.0	0.016	84.5	0.002
-0.4	0.951	7.8	0.338	23.5	0.098	44.0	0.061	64.5	0.017	85.0	0.002
-0.2	0.964	8.0	0.330	24.0	0.103	44.5	0.060	65.0	0.017	85.5	0.001
0.0	0.976	8.2	0.323	24.5	0.108	45.0	0.058	65.5	0.017	86.0	0.001
0.2	0.985	8.4	0.319	25.0	0.112	45.5	0.055	66.0	0.018	86.5	0.001
0.4	0.992	8.6	0.315	25.5	0.115	46.0	0.052	66.5	0.018	87.0	0.001
0.6	0.997	8.8	0.313	26.0	0.116	46.5	0.048	67.0	0.018	87.5	0.001
0.8	1.000	9.0	0.311	26.5	0.114	47.0	0.044	67.5	0.018	88.0	0.000
1.0	1.000	9.2	0.310	27.0	0.110	47.5	0.040	68.0	0.018	88.5	0.000
1.2	0.998	9.4	0.309	27.5	0.104	48.0	0.036	68.5	0.018	89.0	0.000
1.4	0.994	9.6	0.308	28.0	0.097	48.5	0.033	69.0	0.018	89.5	0.000
1.6	0.988	9.8	0.307	28.5	0.088	49.0	0.031	69.5	0.018	90.0	0.000
1.8	0.979	10.0	0.306	29.0	0.080	49.5	0.030	70.0	0.017		
2.0	0.969	10.2	0.305	29.5	0.072	50.0	0.029	70.5	0.017		
2.2	0.957	10.4	0.302	30.0	0.066	50.5	0.030	71.0	0.016		



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SYSTEM SUMMARY

Antenna

Type	TW-7B10-R	ERP	H Pol
Channel	DT10	Gain*	3.5 kW (5.44 dBk)
Location	Calais, ME	Input Power	7.7 (8.86 dB)
			0.5kW (-3.42 dBk)

Transmission Line

Type	Flexible	Attenuation	0.419 dB
Size	3 inch	Efficiency	90.8 %
Impedance	50 ohm		
Length	200 ft		

Transmitter

Average Power Required	0.5 kW (-3.01 dBk)
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* Gain is with respect to half wave dipole.