



Multicomm Sciences Int'l, Inc

Wireless Engineering Services

FCC - Satellite - Microwave - Lightguide
Frequency Coordination - Path Surveys
Radiation Hazard Testing - CAD & Route Mapping

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FREQUENCY COORDINATION REPORT

4 AND 6 GHZ TRANSMIT-RECEIVE EARTH STATION

MILWAUKEE PUBLIC TV

MILWAUKEE, WI

MARCH 30, 2007

1. CONCLUSIONS

An Interference Study considering all existing, proposed and prior coordinated microwave facilities within the coordination contours of the proposed Earth Station demonstrates that this site will operate satisfactorily with the Common Carrier Microwave Environment as defined on the frequency coordination data sheet.

2. SUMMARY OF RESULTS

All of the potential great circle interference cases at 6 GHz were found to be acceptable on the basis that harmful interference will not likely result from the proposed operation, considering the criteria, the potential interference receive levels, and the total propagation losses.

There were no reported cases of rain scatter beam intersections.

3. **SUPPLEMENTAL SHOWING**

The Satellite Earth station proposed in this Application was coordinated by Multicomm Sciences International, Inc., Frequency Coordinators Group, using computer techniques and in accordance with Parts 25 of the FCC Rules and Regulations.

4. **FREQUENCY COORDINATION DATA**

Frequency Coordination Data which is attached, contains the following:

Technical Characteristics of Proposed Earth Station

Horizon Antenna Gain Plot

Discrimination Angle Plot

Local Horizon Plot

Satellite Elevation Plot

4 and 6 GHz Coordination Contour

4 and 6 GHz Rain Scatter

5. **FREQUENCY COORDINATION STATEMENT (FCC PART 101)**

Holders of licenses, permittees, prior filed applicants or planners of 6 GHz transmitting stations were notified on February 3, 2007, of the proposed Earth Station technical details in accordance with Section 25.203 (c-2) of the FCC Rules and Regulations. Satisfactory coordination was achieved on the basis that harmful interference would not occur, or that sufficient terrestrial blocking exists.

BNF Railway
Cellco Partnership – Indiana/Illinois
Centennial Michiana License LLC
Chicago SMSA LP
BorderComm Partners LP (XC)
Illinois RSA #1 LP
Kenosha Cellular Telephone LP
Madison Cellular Telephone
USCOC of Rockford
New Cingular Wireless PCS LLC – Chicago
Appleton Oshkosh Neenah MSA LP
Green Bay Celltelco
Illinois Bell Telephone
MCI Communication Services
Qwest
Wisconsin RSA #7 LP
Colm Ed aka Commonwealth Edison
Union Pacific Railroad
USCOC of Illinois RSA 1
USCOC of Wisconsin RSA #7
Wisconsin RSA No. 8 LP
Wisconsin RSA #10 LP/Cellcom
US Cellular Operating LLC
Illinois State Toll Highway Authority
Racine Cellular Telephone
Rockford MSA LP
Norlight

Milwaukee Public TV
Milwaukee, WI

6. **Certification of Person Responsible for Preparing Frequency Coordination Information Submitted in this Application**

I hereby certify that I am the technically qualified person responsible for preparation of the frequency coordination information contained in this application; that I am familiar with Parts 101 and 25 of the Commission's Rules; that I have either prepared or reviewed the frequency coordination information submitted in this application; and, that it is complete and accurate to the best of my knowledge.



Victor Nexon, Jr.
President
MSI Frequency Coordinators Group
Multicomm Sciences International, Inc.
March 30, 2007



SATELLITE EARTH STATION
 FREQUENCY COORDINATION DATA
 2/3/2007

COMPANY NAME:	MILWAUKEE PUBLIC TV	
EARTH STATION LOCATION:	MILWAUKEE, WI	
LATITUDE (DMS):	43 2 37.0	
LONGITUDE (DMS):	87 55 13.4	
SITE GROUND ELEVATION (FT. AMSL):	597.0	
ANTENNA CENTER LINE (FT)	85.0	
ANTENNA TYPE:	VERTEX	
	6.1M KPC	
ANTENNA DIAMETER (METERS):	6.1	
4 GHZ ANTENNA GAIN (DBI):	46.4	
15 DB HALF BEAMWIDTH (DEG):	1.73	
6 GHZ ANTENNA GAIN (DBI):	49.6	
15 DB HALF BEAMWIDTH (DEG):	1.17	
OPERATING MODE:	T/R	
RECEIVE BAND (MHZ):	3700 - 4200	3700 - 4200
TRANSMIT BAND (MHZ):	6175 - 6425	5925 - 6425
EMISSION DESIGNATOR	36M0F3F	36M0G7W
MODULATION:	ANALOG	DIGITAL
MAX. AVAILABLE RF POWER (DBW/4KHZ):	-5	-13.0
(DBW/1MHZ):	26.5 (2MHZ)	26.4 (36MHZ)
MAX. EIRP (DBW/4KHZ):	49.1	36.8
(DBW/1MHZ):	76.1	76.1
MAX. PERMISSIBLE INTERFERENCE POWER		
4 GHZ 20% (DBW)	-140.0	
4 GHZ 0.0100% (DBW)	-130.0	
6 GHZ 20% (DBW/4KHZ)	-154.0	
6 GHZ 0.0025% (DBW/4KHZ)	-131.0	
SATELLITE ARC (MIN/MAX)	65/142 DEG	
AZIMUTH	148.2/243.7 DEG	
ELEVATION	35.2/ 17.1 DEG	
RADIO CLIMATE	A	
RAIN ZONE	2	
MAXIMUM GREAT CIRCLE COORDINATION DISTANCE (KM)		
4 GHZ	217.8	
6 GHZ	175.3	
PRECIPITATION SCATTER CONTOUR RADIUS (KM)		
4 GHZ	100.0	
6 GHZ	100.2	

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MILWAUKEE, WI
 43 2 37.0
 87 55 13.4

AZ DEG	DISC DEG	HOR ANG DEGREES	4GHZ HOR GAIN	6GHZ HOR GAIN	4GHZ COORD KM	6GHZ COORD KM	RAIN 4 SCAT KM	RAIN 6 SCAT KM
5.	121.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
10.	126.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
15.	131.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
20.	128.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
25.	123.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
30.	118.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
35.	113.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
40.	108.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
45.	103.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
50.	98.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
55.	93.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
60.	88.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
65.	83.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
70.	78.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
75.	73.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
80.	68.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
85.	63.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
90.	58.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
95.	53.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
100.	48.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
105.	43.	.0	-8.9	-8.9	165.8	133.4	218.4	186.2
110.	38.	.0	-7.6	-7.6	171.9	138.3	218.4	186.2
115.	35.	.0	-6.7	-6.7	176.1	141.7	218.4	186.2
120.	35.	.0	-6.7	-6.7	176.1	141.7	218.4	186.2
125.	35.	.0	-6.7	-6.7	176.1	141.7	218.4	186.2
130.	35.	.0	-6.7	-6.7	176.1	141.7	218.4	186.2
135.	35.	.0	-6.7	-6.7	176.1	141.7	218.4	186.2
140.	35.	.0	-6.7	-6.7	176.1	141.7	218.4	186.2
145.	35.	.0	-6.7	-6.7	176.1	141.7	218.4	186.2
150.	35.	.0	-6.7	-6.7	176.1	141.7	218.4	186.2
155.	35.	.0	-6.7	-6.7	176.1	141.7	218.4	186.2
160.	35.	.0	-6.7	-6.7	176.1	141.7	218.4	186.2
165.	35.	.0	-6.7	-6.7	176.1	141.7	218.4	186.2
170.	35.	.0	-6.7	-6.7	176.1	141.7	218.4	186.2
175.	35.	.0	-6.7	-6.7	176.1	141.7	218.4	186.2
180.	34.	.0	-6.4	-6.4	177.3	142.6	218.4	186.2
185.	33.	.0	-6.0	-6.0	179.5	144.4	218.4	186.2
190.	31.	.0	-5.4	-5.4	182.1	146.5	218.4	186.2
195.	30.	.0	-4.8	-4.8	185.1	148.9	218.4	186.2
200.	28.	.0	-4.2	-4.2	188.4	151.6	218.4	186.2
205.	26.	.0	-3.5	-3.5	192.1	154.6	218.4	186.2

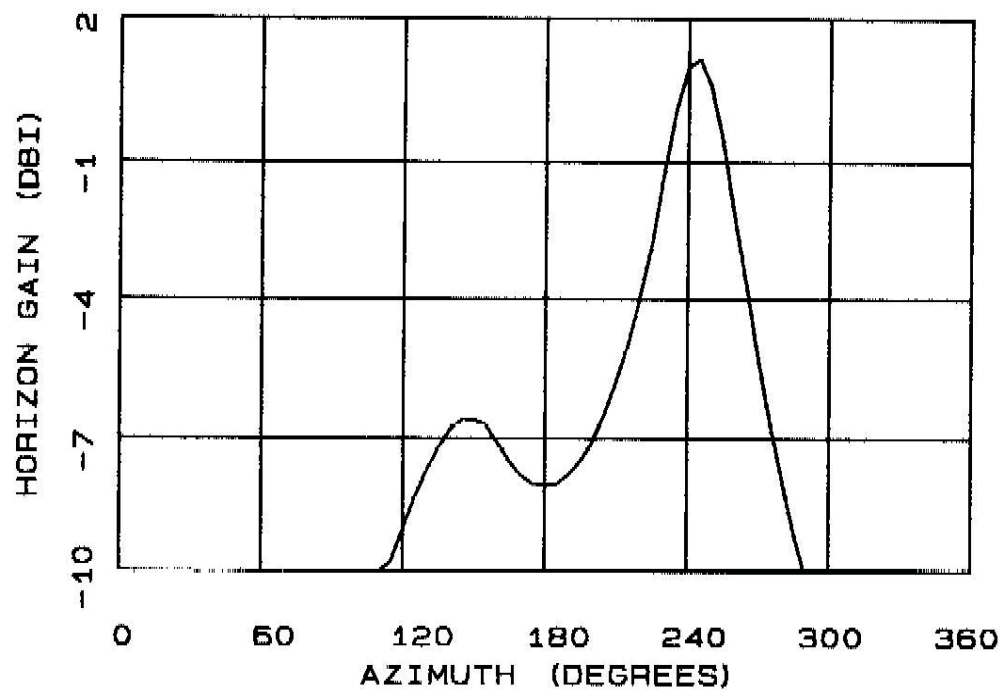
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MILWAUKEE, WI
 43 2 37.0
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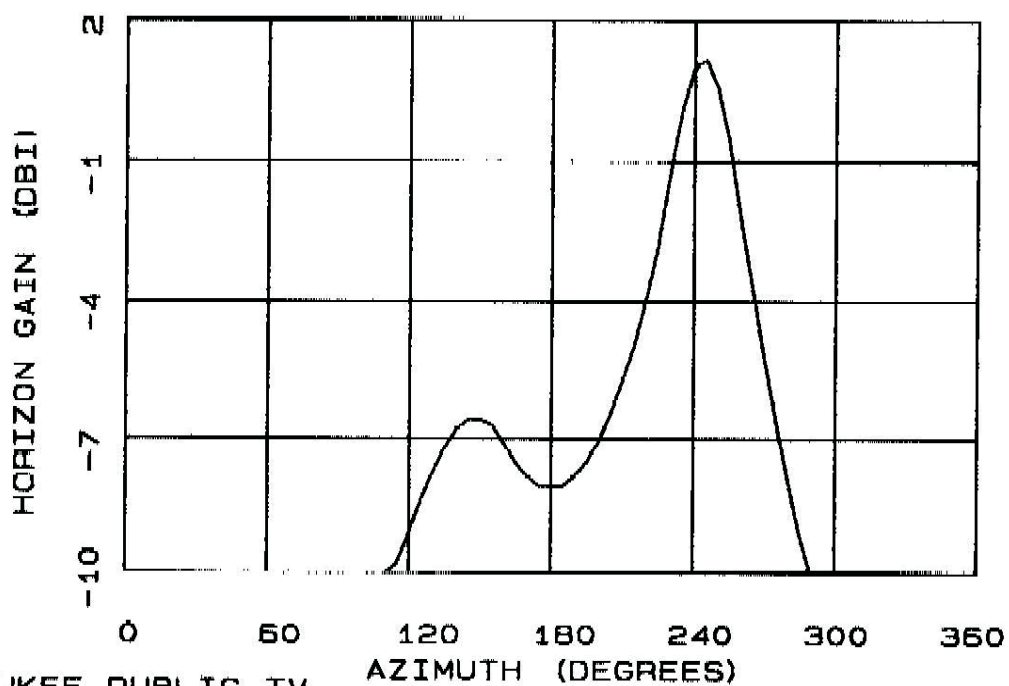
AZ DEG	DISC DEG	HOR ANG DEGREES	4GHZ HOR GAIN	6GHZ HOR GAIN	4GHZ COORD KM	6GHZ COORD KM	RAIN 4 SCAT KM	RAIN 6 SCAT KM
210.	24.	.0	-2.7	-2.7	196.3	157.9	218.4	186.2
215.	22.	.0	-1.8	-1.8	201.1	161.8	218.4	186.2
220.	20.	.0	-.7	-.7	207.2	166.7	218.4	186.2
225.	18.	.0	.7	.7	215.1	173.1	218.4	186.2
230.	17.	.0	1.2	1.2	217.8	175.3	218.4	186.2
235.	17.	.0	1.2	1.2	217.8	175.3	218.4	186.2
240.	17.	.0	1.2	1.2	217.8	175.3	218.4	186.2
245.	17.	.0	1.2	1.2	217.8	175.3	218.4	186.2
250.	17.	.0	1.2	1.2	217.8	175.3	218.4	186.2
255.	17.	.0	1.2	1.2	217.8	175.3	218.4	186.2
260.	17.	.0	1.2	1.2	217.8	175.3	218.4	186.2
265.	21.	.0	-1.2	-1.2	204.1	164.3	218.4	186.2
270.	26.	.0	-3.5	-3.5	191.9	154.4	218.4	186.2
275.	31.	.0	-5.4	-5.4	182.3	146.7	218.4	186.2
280.	36.	.0	-7.0	-7.0	174.5	140.4	218.4	186.2
285.	41.	.0	-8.4	-8.4	168.0	135.2	218.4	186.2
290.	46.	.0	-9.6	-9.6	162.5	130.7	218.4	186.2
295.	51.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
300.	56.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
305.	61.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
310.	66.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
315.	71.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
320.	76.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
325.	81.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
330.	86.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
335.	91.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
340.	96.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
345.	101.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
350.	106.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
355.	111.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2
360.	116.	.0	-10.0	-10.0	160.9	129.5	218.4	186.2

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HORIZON ANTENNA GAIN PLOT 6 GHZ



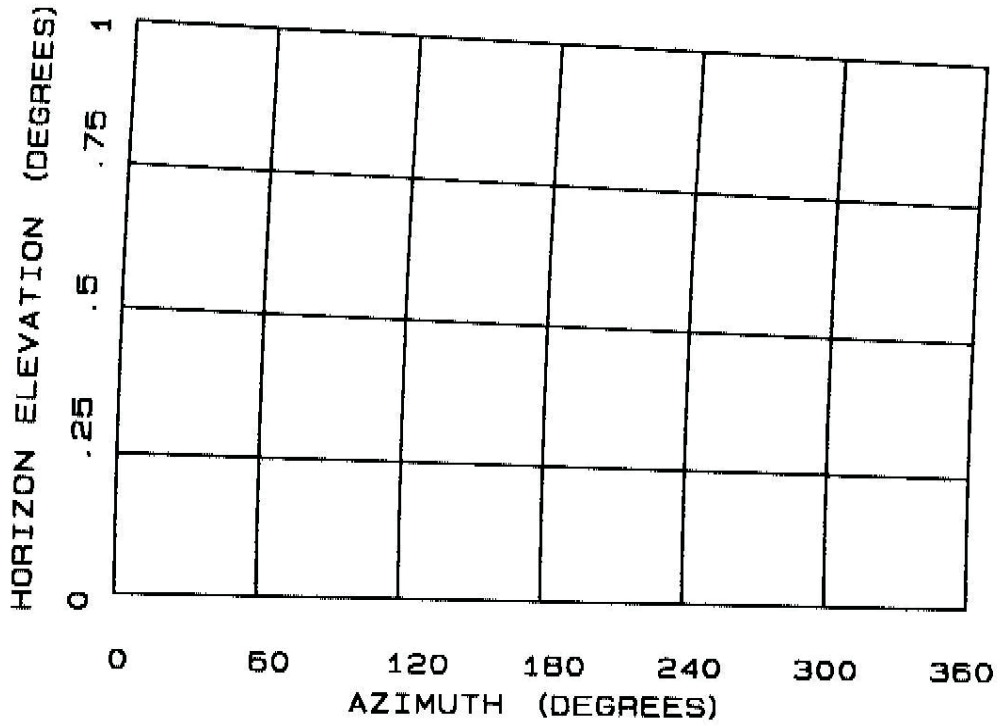
HORIZON ANTENNA PLOT 4 GHZ



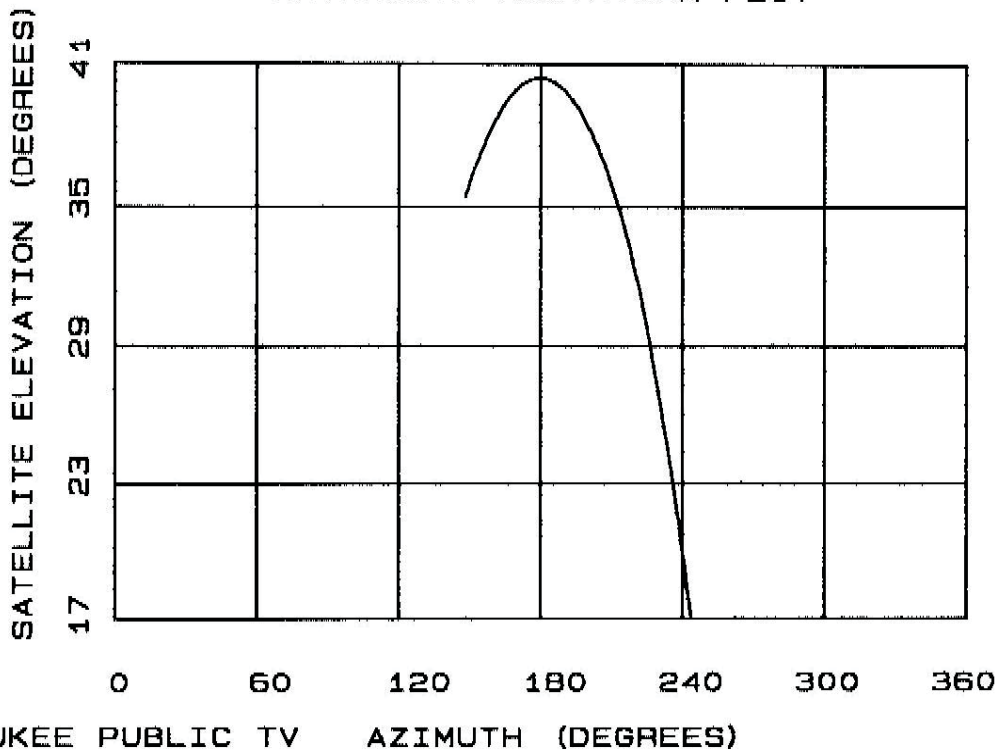
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MILWAUKEE, WI

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LOCAL HORIZON PLOT



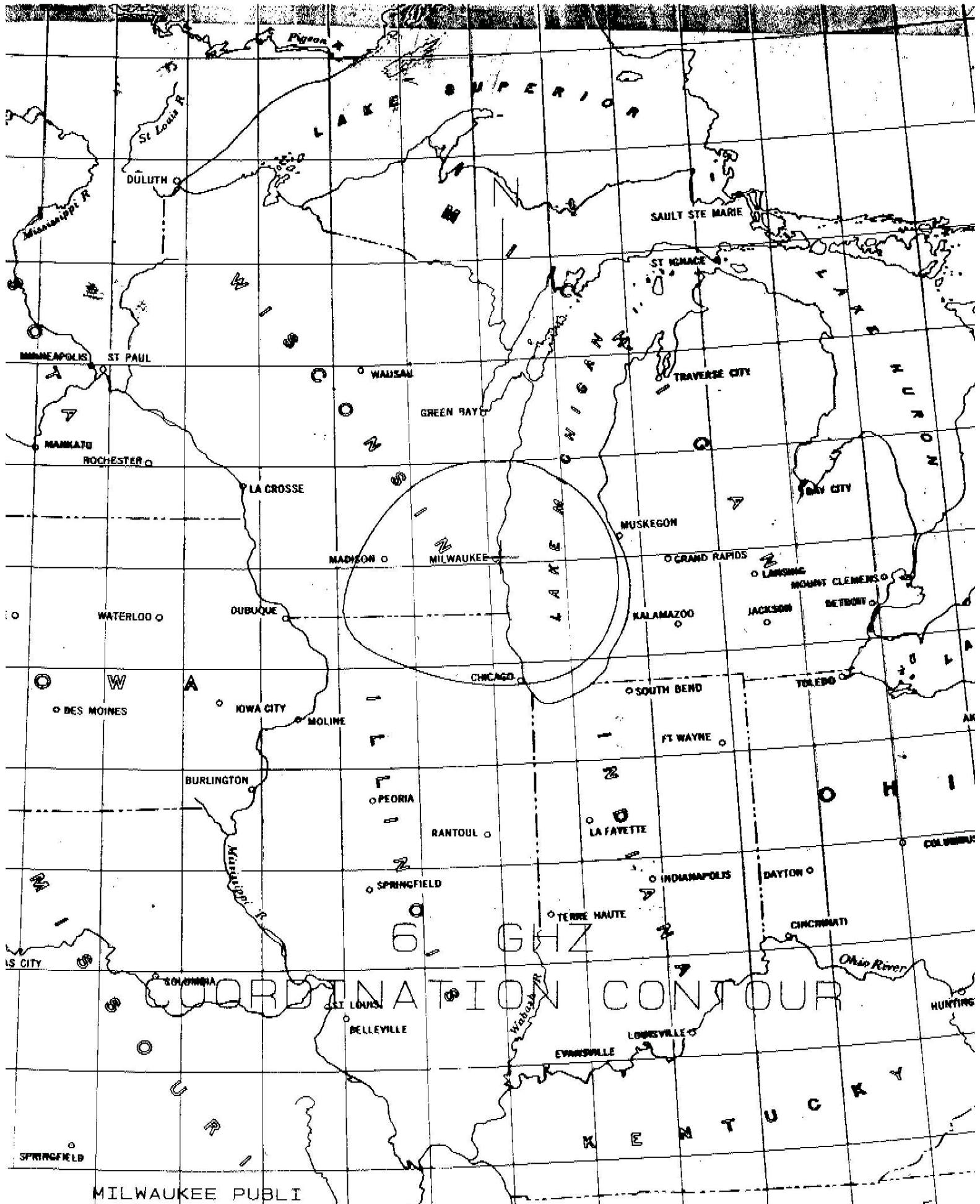
SATELLITE ELEVATION PLOT



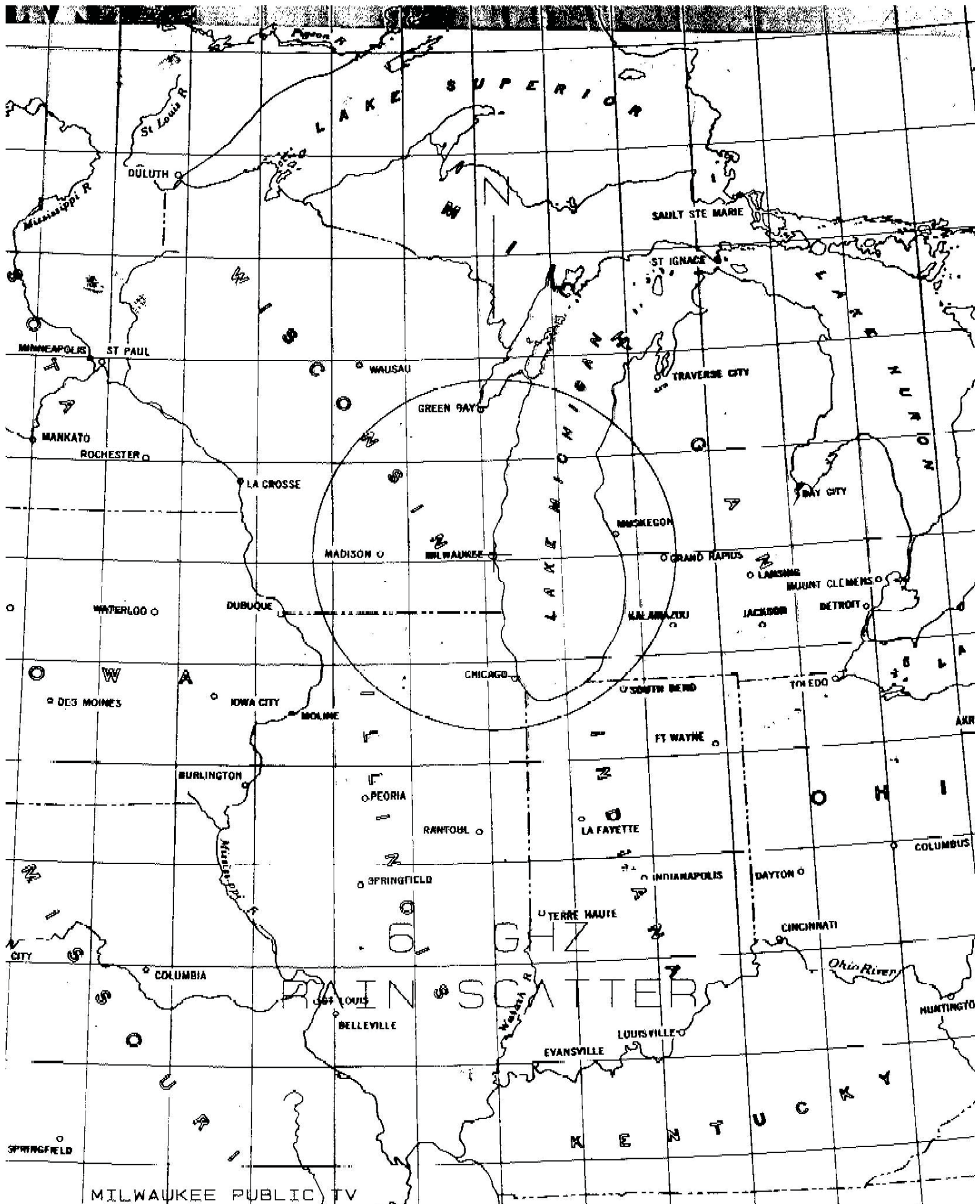
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