



# Multicomm Sciences Int'l, Inc

Wireless Engineering Services

FCC - Satellite - Microwave - Lightguide  
Frequency Coordination - Path Surveys  
Radiation Hazard Testing

266 WEST MAIN STREET  
DENVER, NJ 07834  
PHONE: 973-627-7400  
FAX: 973-625-1002  
HTTP://WWW.MSI2.COM

## FREQUENCY COORDINATION REPORT

### 4 AND 6 GHZ TRANSMIT-RECEIVE EARTH STATION

RADIO MARIA, INC.

ALEXANDRIA, LA

DECEMBER 22, 1999

#### 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

There were no potential great circle interference cases at 4 GHz. There were no potential great circle interference cases at 6 GHz.

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)**

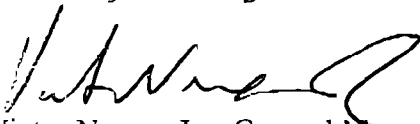
Holders of licenses, permittees, prior filed applicants or planners of 6 GHz transmitting stations were notified on December 3, 1999 of the proposed Earth

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.

AT&T  
Bell Atlantic Mobile Communications  
Bell Atlantic Mobile Sys of Allentown  
Acadiana Cellular Gen Part (BMI)  
MCI Worldcom Network Services  
Louisiana CGSA (BMI)  
BellSouth Telecommunications  
BellSouth Mobility

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., General Manager  
MSI Frequency Coordinators Group  
Multicomm Sciences International, Inc.  
December 22, 1999

SATELLITE EARTH STATION  
 FREQUENCY COORDINATION DATA  
 11/30/99

COMPANY NAME:	RADIO MARIA INC.
EARTH STATION LOCATION:	ALEXANDRIA, LA
LATITUDE(DMS):	31 18 31
LONGITUDE(DMS):	91 26 42
SITE GROUND ELEVATION(FT. AMSL):	76.0
ANTENNA CENTER LINE( FT)	26.0
ANTENNA TYPE:	PRODELIN
	3.8M
ANTENNA DIAMETER(METERS):	3.8
4 GHZ ANTENNA GAIN(DBI):	41.8
15 DB HALF BEAMWIDTH(DEG):	2.30
6 GHZ ANTENNA GAIN(DBI):	46.2
15 DB HALF BEAMWIDTH(DEG):	1.40
OPERATING MODE:	T/R
RECEIVE BAND(MHZ):	4167.7375
TRANSMIT BAND(MHZ):	6392.7375
EMISSION DESIGNATOR	380KG7D
MODULATION:	DIGITAL
MAX. AVAILABLE RF POWER(DBW/4KHZ):	-13.7
(DBW/380KHZ):	6.0 (4 watts)
MAX. EIRP (DBW/4KHZ):	32.5
(DBW/380KHZ):	52.2
DBW:	55.2
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)	-100.0
SATELLITE ARC (MIN/MAX)	48/ 68 DEG
AZIMUTH	118.8/140.2 DEG
ELEVATION	30.9/ 45.5 DEG
RADIO CLIMATE	A
RAIN ZONE	2
MAXIMUM GREAT CIRCLE COORDINATION DISTANCE(KM)	
4 GHZ	183.0
6 GHZ	103.0
PRECIPITATION SCATTER CONTOUR RADIUS(KM)	
4 GHZ	100.0
6 GHZ	100.0
MULTICOMM SCIENCES INTERNATIONAL, INC.	
Denville, NJ 07834 (973)-627-7400	

## ALEXANDRIA, LA

31 18 31

91 26 42

AZ DEG	DISC DEG	HOR DEGREES	ANG	4GHZ HOR GAIN	6GHZ HOR GAIN	4GHZ COORD KM	6GHZ COORD KM	RAIN 4 SCAT KM	RAIN 6 SCAT KM
210.	76.	.0		-10.0	-12.0	140.4	102.0	100.0	100.0
215.	79.	.0		-10.0	-12.0	138.6	102.0	100.0	100.0
220.	83.	.0		-10.0	-12.0	136.9	102.0	100.0	100.0
225.	86.	.0		-10.0	-12.0	135.2	102.0	100.0	100.0
230.	90.	.0		-10.0	-12.0	133.7	102.0	100.0	100.0
235.	93.	.0		-10.0	-12.0	132.2	102.0	100.0	100.0
240.	97.	.0		-10.0	-12.0	130.8	102.0	100.0	100.0
245.	100.	.0		-10.0	-12.0	129.4	102.0	100.0	100.0
250.	104.	.0		-10.0	-12.0	128.2	102.0	100.0	100.0
255.	107.	.0		-10.0	-12.0	127.0	102.0	100.0	100.0
260.	110.	.0		-10.0	-12.0	125.8	102.0	100.0	100.0
265.	114.	.0		-10.0	-12.0	124.8	102.0	100.0	100.0
270.	117.	.0		-10.0	-12.0	123.8	102.0	100.0	100.0
275.	120.	.0		-10.0	-12.0	122.9	102.0	100.0	100.0
280.	122.	.0		-10.0	-12.0	122.1	102.0	100.0	100.0
285.	125.	.0		-10.0	-12.0	121.3	102.0	100.0	100.0
290.	127.	.0		-10.0	-12.0	120.7	102.0	100.0	100.0
295.	129.	.0		-10.0	-12.0	120.1	102.0	100.0	100.0
300.	131.	.0		-10.0	-12.0	119.6	102.0	100.0	100.0
305.	133.	.0		-10.0	-12.0	119.3	102.0	100.0	100.0
310.	134.	.0		-10.0	-12.0	119.0	102.0	100.0	100.0
315.	134.	.0		-10.0	-12.0	118.8	102.0	100.0	100.0
320.	134.	.0		-10.0	-12.0	118.7	102.0	100.0	100.0
325.	134.	.0		-10.0	-12.0	118.8	102.0	100.0	100.0
330.	134.	.0		-10.0	-12.0	119.0	102.0	100.0	100.0
335.	133.	.0		-10.0	-12.0	119.2	102.0	100.0	100.0
340.	130.	.0		-10.0	-12.0	119.9	102.0	100.0	100.0
345.	126.	.0		-10.0	-12.0	120.9	102.0	100.0	100.0
350.	122.	.0		-10.0	-12.0	122.0	102.0	100.0	100.0
355.	118.	.0		-10.0	-12.0	123.2	102.0	100.0	100.0
360.	114.	.0		-10.0	-12.0	124.5	102.0	100.0	100.0

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## ALEXANDRIA, LA

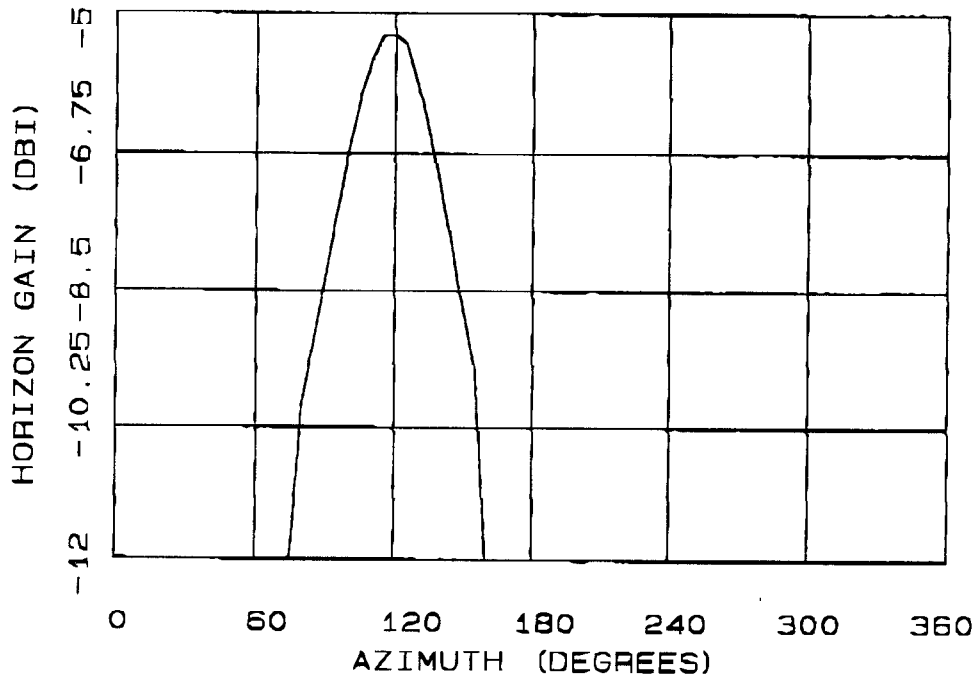
31 18 31

91 26 42

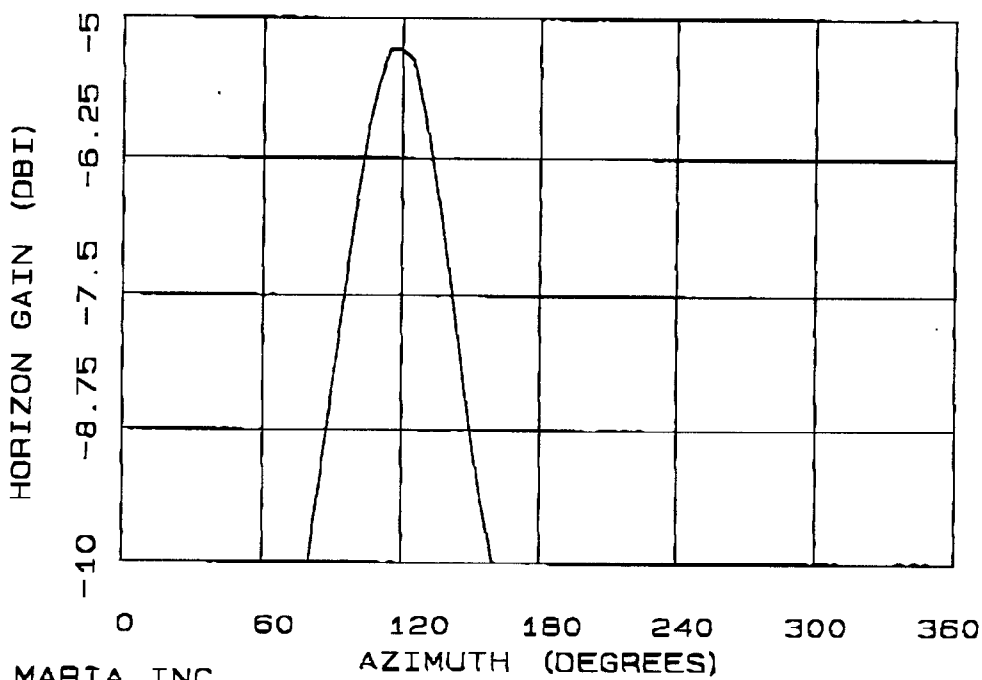
AZ DEG	DISC DEG	HOR DEGREES	4GHZ HOR GAIN	6GHZ HOR GAIN	4GHZ COORD KM	6GHZ COORD KM	RAIN 4 SCAT KM	RAIN 6 SCAT KM
5.	110.	.0	-10.0	-12.0	125.9	102.0	100.0	100.0
10.	106.	.0	-10.0	-12.0	127.3	102.0	100.0	100.0
15.	102.	.0	-10.0	-12.0	128.9	102.0	100.0	100.0
20.	98.	.0	-10.0	-12.0	130.5	102.0	100.0	100.0
25.	93.	.0	-10.0	-12.0	132.3	102.0	100.0	100.0
30.	89.	.0	-10.0	-12.0	134.1	102.0	100.0	100.0
35.	85.	.0	-10.0	-12.0	136.1	102.0	100.0	100.0
40.	80.	.0	-10.0	-12.0	138.2	102.0	100.0	100.0
45.	76.	.0	-10.0	-12.0	140.4	102.0	100.0	100.0
50.	72.	.0	-10.0	-12.0	142.8	102.0	100.0	100.0
55.	68.	.0	-10.0	-12.0	145.3	102.0	100.0	100.0
60.	64.	.0	-10.0	-12.0	148.0	102.0	100.0	100.0
65.	60.	.0	-10.0	-12.0	150.9	102.0	100.0	100.0
70.	56.	.0	-10.0	-12.0	154.0	102.0	100.0	100.0
75.	52.	.0	-10.0	-12.0	157.3	102.0	100.0	100.0
80.	48.	.0	-10.0	-10.0	160.8	102.0	100.0	100.0
85.	44.	.0	-9.2	-9.2	164.4	102.0	100.0	100.0
90.	41.	.0	-8.4	-8.4	168.1	102.0	100.0	100.0
95.	38.	.0	-7.6	-7.6	171.9	102.0	100.0	100.0
100.	36.	.0	-6.8	-6.8	175.5	102.0	100.0	100.0
105.	34.	.0	-6.1	-6.1	178.6	100.5	100.0	100.0
110.	32.	.0	-5.6	-5.6	181.1	101.9	100.0	100.0
115.	31.	.0	-5.3	-5.3	182.6	102.8	100.0	100.0
120.	31.	.0	-5.3	-5.3	183.0	103.0	100.0	100.0
125.	31.	.0	-5.4	-5.4	182.0	102.4	100.0	100.0
130.	33.	.0	-5.9	-5.9	180.0	101.3	100.0	100.0
135.	35.	.0	-6.5	-6.5	177.1	102.0	100.0	100.0
140.	37.	.0	-7.2	-7.2	173.7	102.0	100.0	100.0
145.	40.	.0	-8.0	-8.0	170.0	102.0	100.0	100.0
150.	43.	.0	-8.8	-8.8	166.3	102.0	100.0	100.0
155.	46.	.0	-9.5	-9.5	163.0	102.0	100.0	100.0
160.	48.	.0	-10.0	-12.0	160.4	102.0	100.0	100.0
165.	51.	.0	-10.0	-12.0	158.3	102.0	100.0	100.0
170.	53.	.0	-10.0	-12.0	156.5	102.0	100.0	100.0
175.	55.	.0	-10.0	-12.0	154.5	102.0	100.0	100.0
180.	57.	.0	-10.0	-12.0	152.5	102.0	100.0	100.0
185.	60.	.0	-10.0	-12.0	150.4	102.0	100.0	100.0
190.	63.	.0	-10.0	-12.0	148.3	102.0	100.0	100.0
195.	66.	.0	-10.0	-12.0	146.2	102.0	100.0	100.0
200.	69.	.0	-10.0	-12.0	144.2	102.0	100.0	100.0
205.	73.	.0	-10.0	-12.0	142.3	102.0	100.0	100.0

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HORIZON ANTENNA GAIN PLOT 6 GHZ



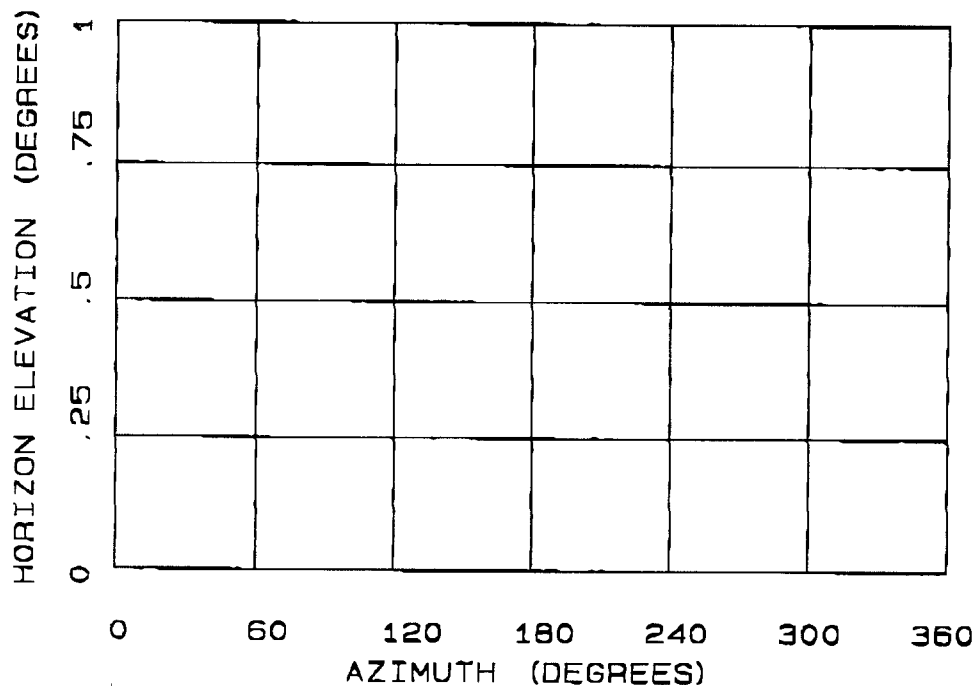
HORIZON ANTENNA PLOT 4 GHZ



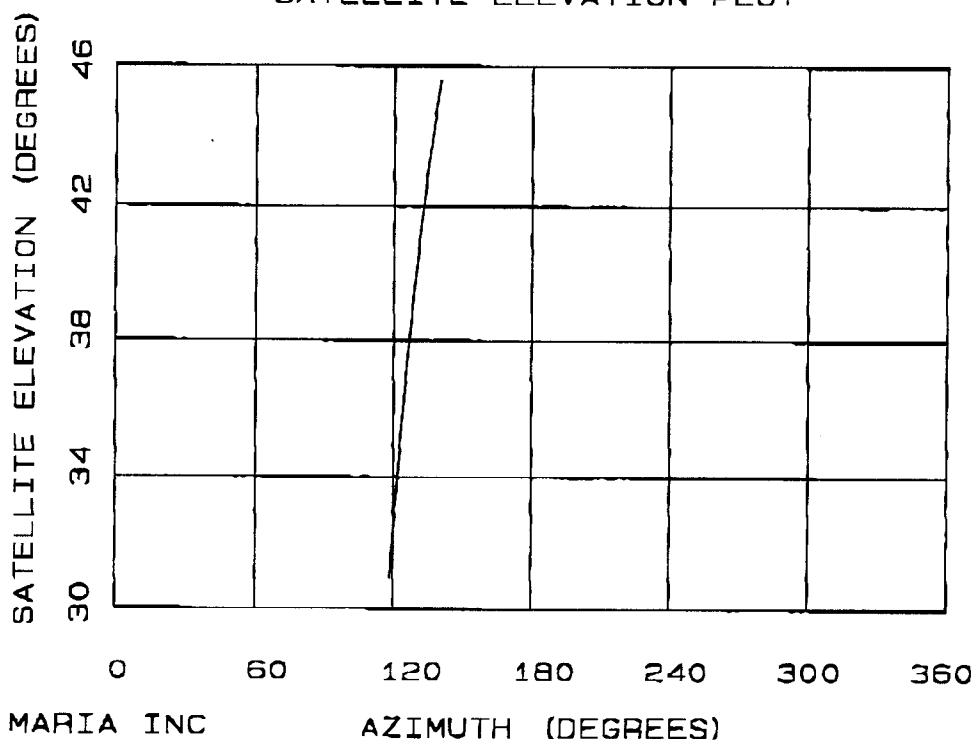
RADIO MARIA INC  
ALEXANDRIA, LA  
31 18 31 N 91 26 42 W  
12-06-1999

MSI

### LOCAL HORIZON PLOT



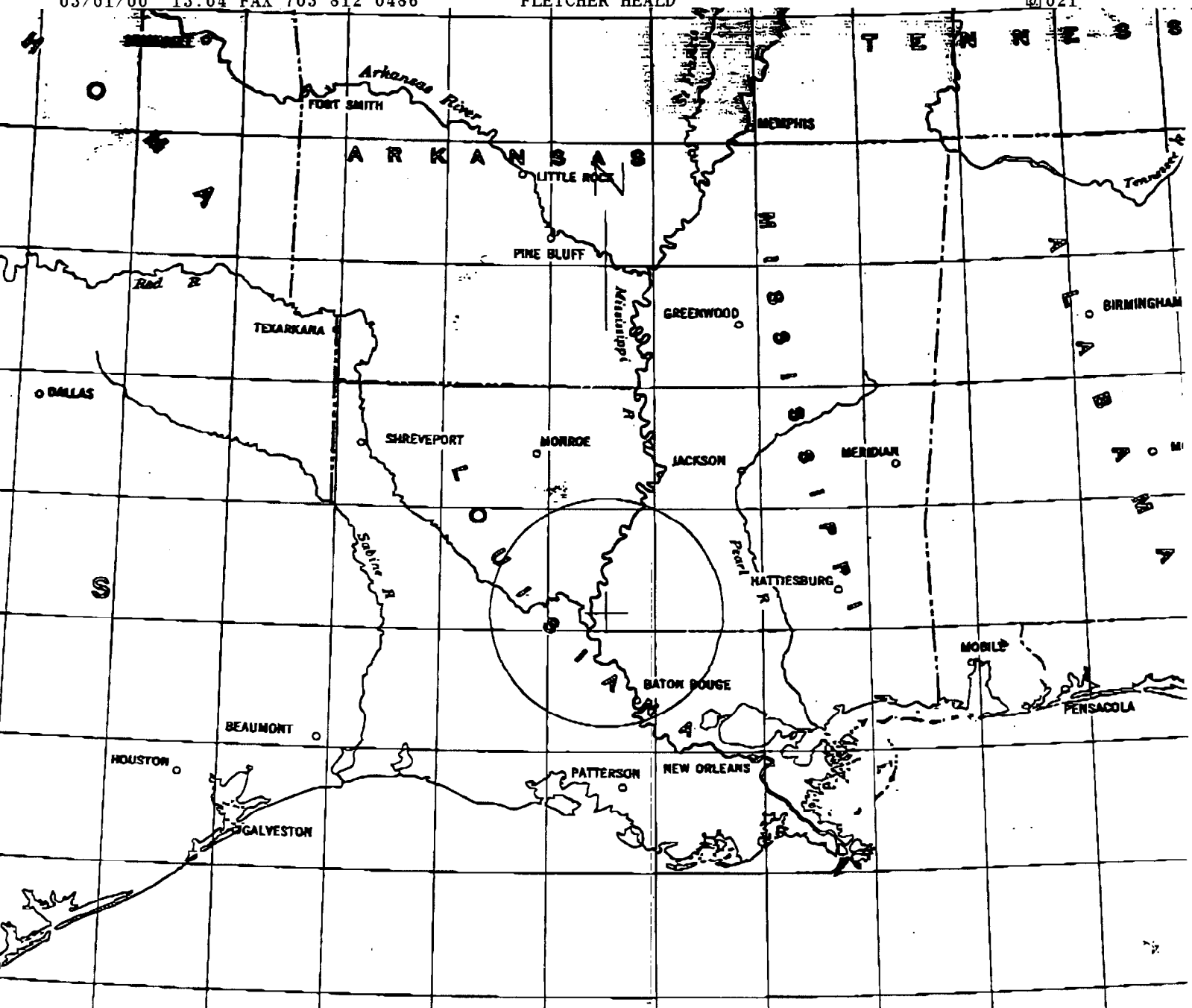
### SATELLITE ELEVATION PLOT



RADIO MARIA INC  
ALEXANDRIA, LA  
31 18 31 N 91 26 42 W  
12-05-1999

MSI

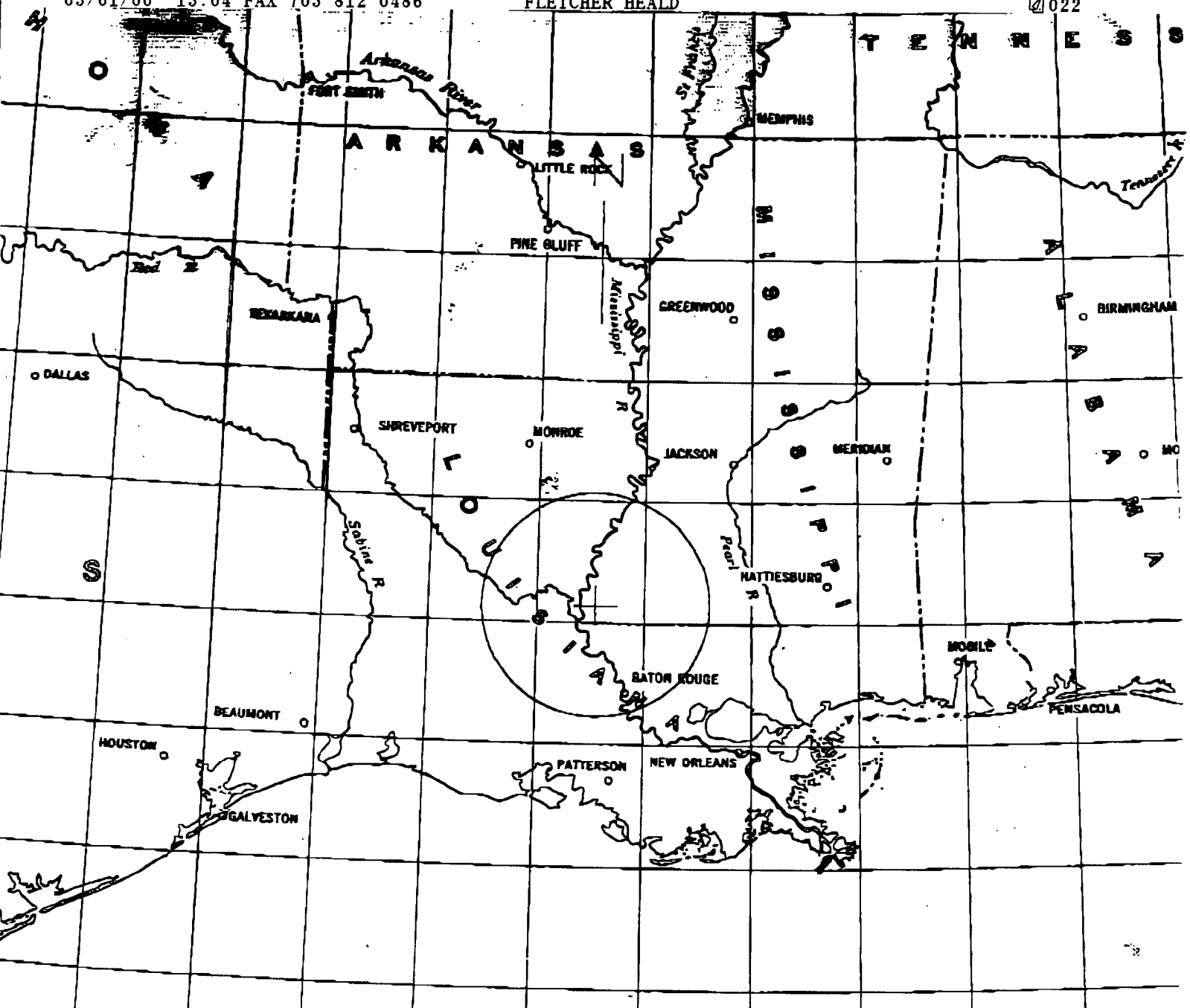




6 GHz  
COORDINATION CONTOUR

RADIO MARIA INC  
ALEXANDRIA, LA  
30 18 31 N 91 26 42 W  
12-06-1999

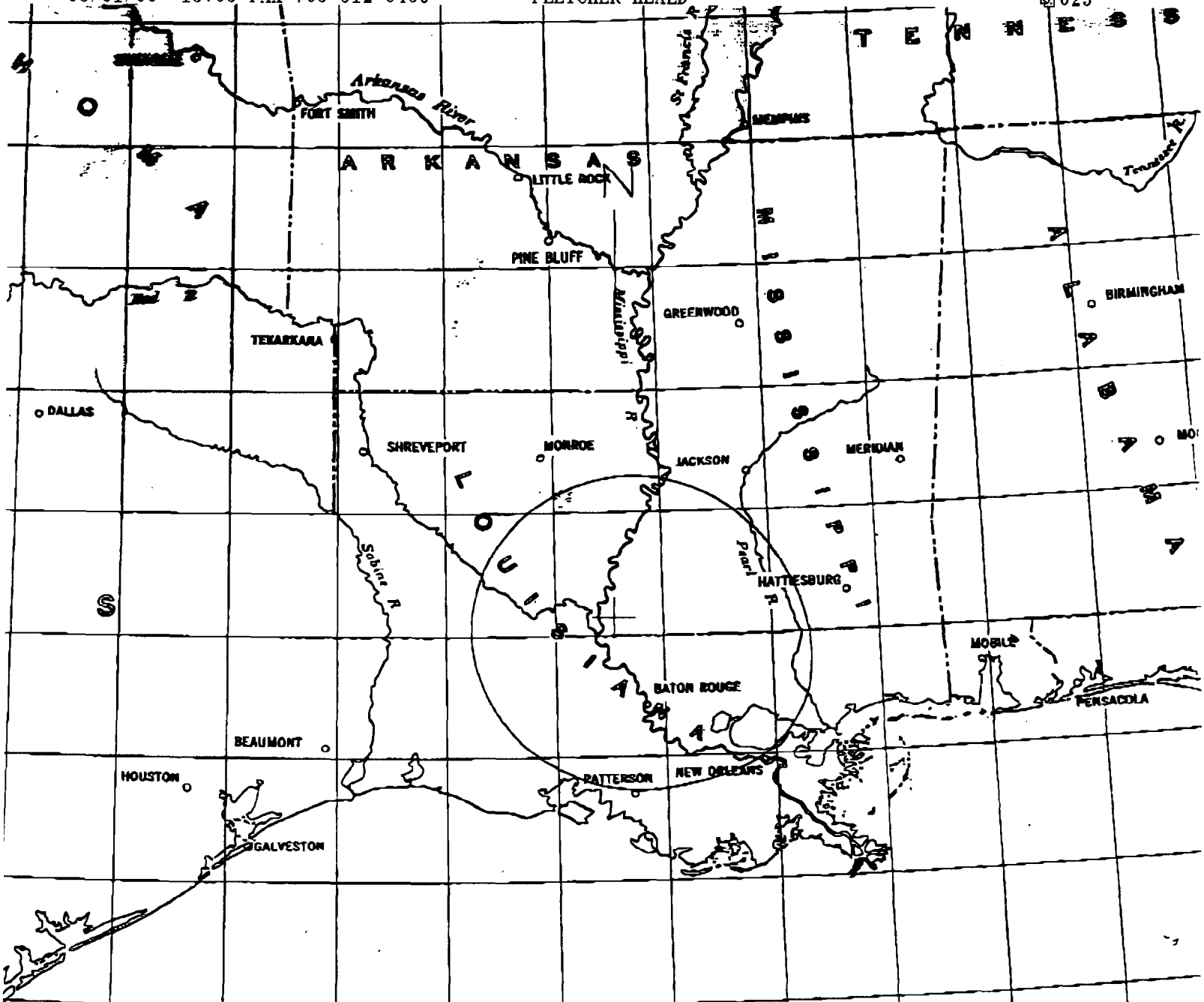
MSIX



6 GHZ  
RAIN SCATTER

RADIO MARIA INC  
ALEXANDRIA, LA  
30 18 31 N 91 26 42 W  
12-06-1999

O F M S I X

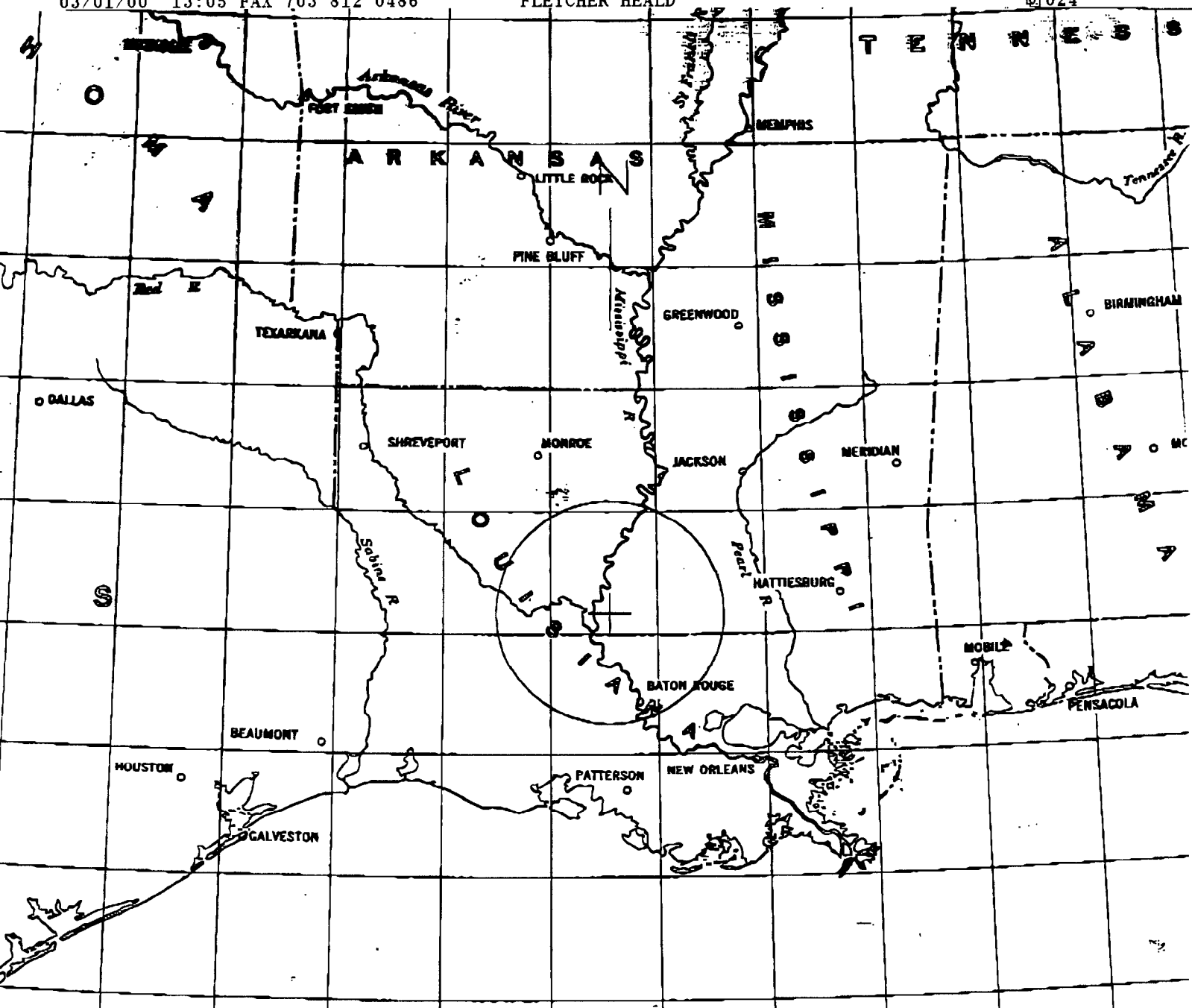


4 GHz  
COORDINATION CONTOUR

RADIO MARIA INC  
ALEXANDRIA, LA

31 18 31 N 91 26 42 W  
12-98-1999

O F M MSI



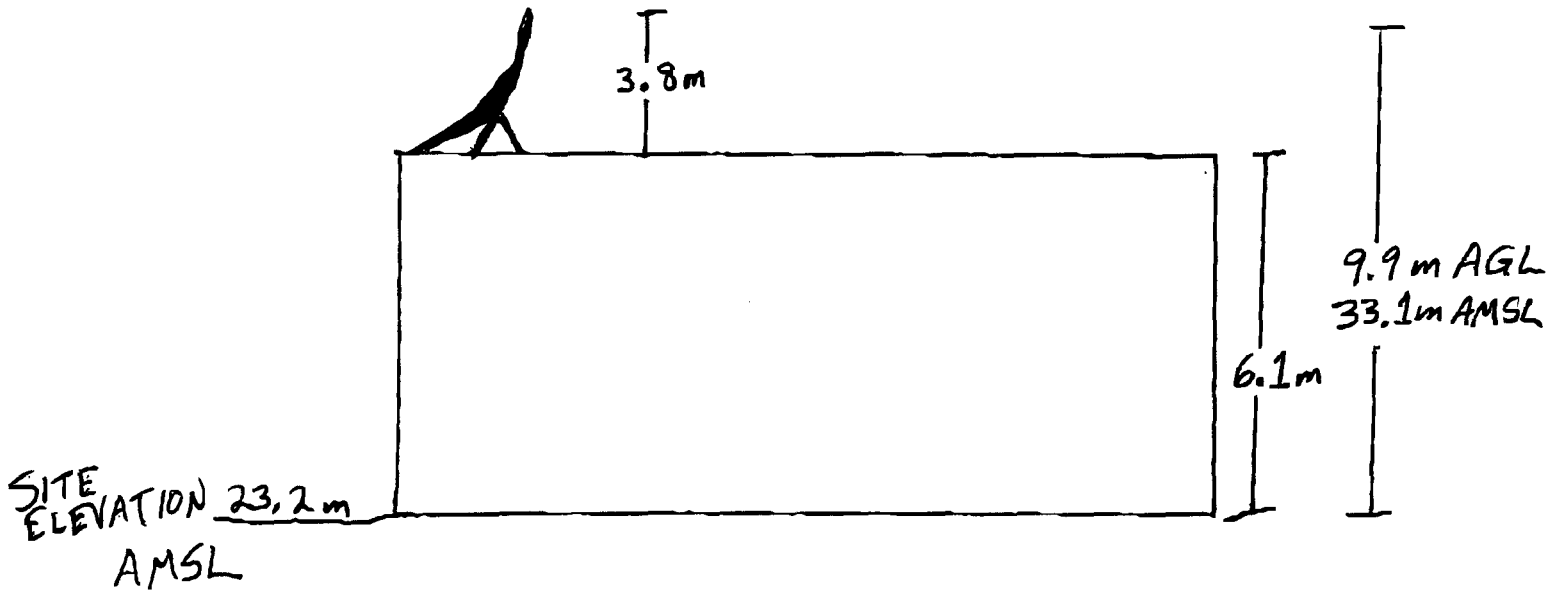
4 GHZ  
RAIN SCATTER

RADIO MARIA INC  
ALEXANDRIA, LA

31° 18' 31" N 91° 25' 42" W  
12-06-1999

O F M MSI X

FCC 312  
RADIOMARIA, INC.  
ANTENNA SKETCH  
EXHIBIT C



NOT TO SCALE