

**Fine Arts Radio, Inc.**  
Newport, Ohio

Engineering Statement for W247AP, Athens, Ohio

1. The installation consists of a Tepco J-317 FM translator, followed by a Henry 100 watt amplifier. This, in turn, feeds an 85 foot length of Cablewave FLC12-50J ½" foam coaxial cable, connected to a single bay SWR Model FM1/1 Circularly Polarized antenna mounted 50 feet above ground on the leg of a self-supporting tower at Athens, Ohio.

The site is commonly known as the former Ohio Highway Patrol tower off Lancaster St. and Columbus Road on the west side of the city of Athens.

2. Environmental considerations. The site is presently used for fire and public safety communications, therefore the base of the tower is fenced, and not accessible to the general public. With the transmitting antenna mounted as proposed in the construction permit, 50 feet or 16 meters above ground, the field at ground level for a combined ERP of 50 watts (H + V) is not a hazard for RF exposure.

3. Power Calculations:

Transmitter Power Out	64.54 watts (65 watts t.p.o.)
Efficiency of line at 97.3 MHZ	87.63%
Power Dissipated in line	(-7.9864 watts)
Power at Input to Antenna	56.561 watts
Antenna Gain	.442
System ERP	25 watts

Attachment

Manufacturer s specification sheet for this antenna (next page)



**SYSTEMS WITH RELIABILITY, Inc.**  
Broadcast Antenna & Transmission Systems

## ANTENNA SPECIFICATION SUMMARY

Station Call : TBD  
Antenna Type : FM1/1  
Customer : RF Specialties of PA  
Location : St. Marys, WV

Date : 10/13/2004  
Frequency: 97.3  
Shop Order No.: 04428

ELECTRICAL SPECIFICATION					
				Power	dB
Polarization Type: Circular					
Polarization Ratio:	H-Pol	50.0000	%		
	V-Pol	50.0000	%		
Elevation Directivity				0.883	-0.540
Azimuth Directivity H-Pol.				1.000	0.000
Azimuth Directivity V-Pol.				1.000	0.000
Antenna Gain				0.442	-3.551
Power Capability				500 W	
Beam Tilt				0 degrees	
Null Fill				0, 0, 0 %	
Input Line Size				Type "N"	
MECHANICAL SPECIFICATION					
Antenna Aperature Length				NA ft.	
Center of Radiation (AGL)				TBD ft.	
Wind Force (50/33)				25.00 lb.	
Antenna Weight				9.00 lb.	

Mechanical Specifications will be certified upon final construction and testing.  
Note: Given values can be used for planning system.

Prepared by:

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