

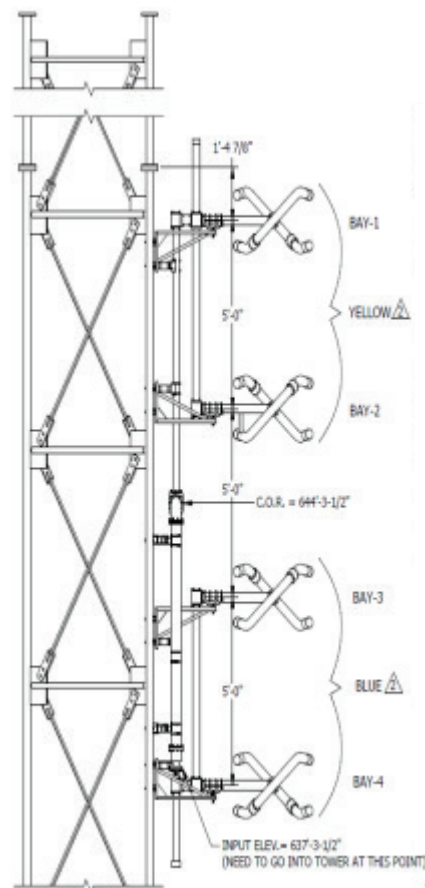
AXIOM® MPA Series

Medium Power Master FM Antennas

ERI offers 4 and 8-bay versions of its AXIOM® master FM antenna. The AXIOM® is a specially designed antenna system which provides high input power handling capability and can provide service as an auxiliary master FM antenna for systems that are limited to band width requirements of up to 8 MHz of the FM Band (88 MHz to 108 MHz). The antenna can be designed with a single RF input or can be configured as separate upper and lower antennas for higher power handling capability and redundancy.

Features

- Low VSWR
- Internal feed
- Fully pressurized
- Series fed radiating elements
- Circular polarization
- Welded feed connections
- Superior VSWR band width
- High input power capacity
- Custom modifications are available
- Corrosion resistant construction
- Modular construction facilitates easy installation and repair
- Minimal weather related VSWR problems
- Beam tilt and/or null fill available
- Half-wave spacing between elements available
- Rugged brass construction
- Stainless steel support brackets and hardware
- Radomes or deicing heaters not normally required for radial ice less than 1/2-inch
- Radomes or deicing heaters are available
- Custom designed antenna supports; poles or Lambda® tower sections are also available from ERI



ERI antennas are unchallenged in quality and dependability. ERI is the only manufacturer to use large diameter outer conductors and a completely enclosed, pressurized, internal series feed system. The result is a simple and reliable method of coupling power to the elements. Unlike competing designs, ERI series fed antennas do not require a troublesome secondary current loop for element excitation with all the resulting disadvantages. All ERI antennas include brackets for mounting on leg, pole, or face mounting (up to 42-inch uniform cross section tower); brackets for other mounting configurations are optionally available. The ROTOTILLER® series FM antenna's unique design consists of two series fed, bent dipole elements which form a space phased, circularly polarized radiator. The antenna's configuration and the large diameter of the radiating elements contribute to the excellent bandwidth of the antenna system, and also inhibits corona discharge.

The horizontally polarized azimuth pattern of the MPA series antenna is omnidirectional within ± 2 dB when the antenna is pole or Lambda® optimized FM mounting section mounted atop a tower. Side mounting the antenna on a typical tower structure will affect the azimuth pattern. ERI offers a pattern measurement service to assist in determining the effect of the mounting structure on the antenna's pattern. Using ERI's pattern optimization service the pattern's circularity may be improved through the addition of parasitically excited elements.

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Utilize the ERI advantage; combine an ERI antenna with an ERI Lambda® Mounting Structure, Pattern Measurement and Installation. Assure yourself of the best antenna/tower interaction. ERI's Pattern Measurement service will provide the crucial answers concerning the relationship between the antenna mounting orientation and antenna pattern. Lambda Sections are designed to achieve optimum antenna performance while reducing weight and wind loads. Only ERI can offer you an antenna/tower/installation package that will achieve your highest expectations in a demanding FM radio market.

Electrical Specifications

Frequency Range:	Specified 8 MHz of the FM Band (88 to 108 MHz)
RF Input Power Rating:	See chart below for standard configuration input power ratings
VSWR:	1.25:1, maximum with field tuning
Element Type:	MPA Series ROTOTILLER®
Azimuth Pattern Circularity:	+/-2 dB, in free space
Polarization:	Circular (Clockwise)
Axial Ratio:	Less than 3 dB in free space

Numeric Power Gain

Frequency	4-Bay	8-Bay
88.1 MHz	1.179	2.247
98.1 MHz	1.308	2.522
107.9 MHz	1.394	2.703

<u>Model</u>	<u>RF Input Flange</u>	<u>Power Handling</u>
MPA-4BC-HW-SP	Single, 3-1/8-inch EIA, Female	18 kW
MPA-8BC-HW-SP	Single, 3-1/8-inch EIA, Female	30 kW

Mechanical Specifications

	<u>Antenna Length</u>		<u>Aperture recommended</u>	
	Feet	Meters	Feet	Meters
MPA-4BC-HW-SP	19.3	5.88	27.3	8.32
MPA-8BC-HW-SP	39.3	11.98	47.3	14.42

	<u>Antenna Only</u>				<u>Antenna with Radomes</u>			
	<u>Weight</u>		<u>CaAc</u>		<u>Weight</u>		<u>CaAc</u>	
	lbm	kg	sq ft	sq mtr	lbm	kg	sq ft	sq mtr
MPA-4BC-HW-SP	547	248.1	17.3	1.60	723	328.0	14.8	1.38
MPA-8BC-HW-SP	910	412.8	53.5	4.97	1262	572.4	61.7	5.73

	<u>Antenna Only with 1/2-inch radial ice</u>				<u>Antenna with Radomes with 1/2-inch radial ice</u>			
	<u>Weight</u>		<u>CaAc</u>		<u>Weight</u>		<u>CaAc</u>	
	lbm	kg	sq ft	sq mtr	lbm	kg	sq ft	sq mtr
MPA-4BC-HW-SP	777	352.4	21.9	2.03	1112	504.40	32.6	3.03
MPA-8BC-HW-SP	1409	639.1	69.7	6.48	2079	943.03	91.9	8.53

Notes:

- 1) All loads calculated in accordance with the ANSI/TIA-222 standard.
- 2) Listed antenna weights and effective wind areas are based upon 'typical' configurations. Final design loads will vary for specific projects and should be verified by an ERI representative.
- 3) Loading includes antenna radiating elements, interbay feed, and standard leg mounting brackets. Special mounting bracket loads for face-mounted and/or pole standoff mounted systems are NOT included.
- 4) No wind shielding taken into account for supporting structure.