

1105 Series

Circularly Polarized FM Radio Antenna



Features

- Circular polarization
- Light weight and low wind load design
- Custom modifications are available
- Corrosion resistant construction
- Beam tilt and/or null fill available
- Stainless steel support brackets and hardware
- Custom designed antenna supports; poles or LAMBDA™ Antenna Structures are also available from ERI

Characteristics

Product Line	1105
Frequency Range	88 - 108 MHz, Single frequency
Polarization	Circular (Clockwise)
Azimuth	±2 dB in free space
VSWR at Input	1.07:1 or less (with field matching) 1.25:1 or less (with top pole or LAMBDA™ Mounting System) 1.50:1 or less (top mounted without field matching)

The 1105 Series Antenna meets the requirements of Class "A" facilities. The 1105-B, with power handling capabilities up to 12 kW, meets the requirements of all Class "A" and some higher facilities. Designed to withstand wind velocities to 150 mph, the 1105, with low weight and wind load parameters, is ideally suited for mounting on lightweight structures. Standard dc-to ground continuity is an asset in reducing the damaging effects of lightning. The power split is 50/50, with other ratios available. Electrical beam tilt and null fill are optional on the 1105-B Series. Contact ERI for special power split gains.

1105 Series

Circularly Polarized FM Radio Antenna

A Model - Medium Power

Electrical Specifications

Type Number	Number of Bays	Power Gain	dB Gain	Input Type	Feed Configuration	Input Power Rating <i>kW</i>	Bay to Bay Spacing
1105-1E	1	0.4611	-3.3623	1 5/8 inch 50 Ohm Female	End	3.0	Full Wave
1105-2E	2	0.9971	-0.0128	1 5/8 inch 50 Ohm Female	End	6.0	Full Wave
1105-3E	3	1.5588	1.9278	1 5/8 inch 50 Ohm Female	End	9.0	Full Wave
1105-4E	4	2.1332	3.2903	1 5/8 inch 50 Ohm Female	End	9.0	Full Wave
1105-5E	5	2.7154	4.3384	1 5/8 inch 50 Ohm Female	End	9.0	Full Wave

Mechanical Specifications

Type Number	Weight				C _A			
	Antenna		Antenna & ½ in. radial ice		Antenna		Antenna & ½ in. radial ice	
	<i>lbm</i>	<i>kg</i>	<i>lbm</i>	<i>kg</i>	<i>ft²</i>	<i>m²</i>	<i>ft²</i>	<i>m²</i>
1105-1E	36.00	21.30	68.00	45.61	3.11	0.29	4.86	0.45
1105-2E	77.00	31.55	140.00	68.02	6.46	0.60	10.08	0.94
1105-3E	118.00	53.52	212.00	96.16	9.81	0.91	15.30	1.42
1105-4E	159.00	72.12	284.00	128.82	13.16	1.22	20.52	1.91
1105-5E	200.00	90.72	356.00	161.48	16.51	1.53	25.74	2.39
1105-6E	241.00	109.32	428.00	194.14	19.86	1.85	30.96	2.88
1105-7E	282.00	127.91	500.00	226.80	23.21	2.15	36.18	3.36
1105-8E	323.00	146.51	572.00	259.46	26.56	2.47	41.40	3.85

Mechanical Notes:

- (1) Antenna weight and wind load are approximate values for a typical structure assuming no top load. Final design loads will vary for specific projects and should be verified by an ERI representative.
- (2) Wind loads are calculated in accordance with the ANSI/TIA/EIA 222-F standard. Weight and effective wind area (CaC) includes antenna, inner transmission feed and typical support mast and mounting brackets with no ice.

Electronics Research, Inc. • 7777 Gardner Road • Chandler, IN 47610-9219 • USA | +1 812 925-6000 (tel) • +1 812 925-4030 (fax)

Your Single Source for Broadcast Solutions™ • Call Toll-free at 877 ERI-LINE • Visit Online at www.eriinc.com

1105 Series

Circularly Polarized FM Radio Antenna

B Model - High Power

Electrical Specifications

Type Number	Number of Bays	Power Gain	dB Gain	Input Type	Feed Configuration	Input Power Rating kW	Bay to Bay Spacing
1105-4C	4	2.1332	3.2903	3 1/8 inch 50 Ohm Female	Center	12.0	Full Wave
1105-5C	5	2.7154	4.3384	3 1/8 inch 50 Ohm Female	Off Center	12.0	Full Wave
1105-6C	6	3.3025	5.1888	3 1/8 inch 50 Ohm Female	Center	12.0	Full Wave
1105-7C	7	3.8935	5.9034	3 1/8 inch 50 Ohm Female	Off Center	12.0	Full Wave
1105-8C	8	4.4872	6.5197	3 1/8 inch 50 Ohm Female	Center	12.0	Full Wave
1105-9C	9	5.0826	7.0608	3 1/8 inch 50 Ohm Female	Off Center	12.0	Full Wave
1105-10C	10	5.6800	7.5435	3 1/8 inch 50 Ohm Female	Center	12.0	Full Wave
1105-11C	11	6.2783	7.9785	3 1/8 inch 50 Ohm Female	Off Center	12.0	Full Wave
1105-12C	12	6.8781	8.3747	3 1/8 inch 50 Ohm Female	Center	12.0	Full Wave

Mechanical Specifications

Type Number	Weight				C _A			
	Antenna		Antenna & ½ in. radial ice		Antenna		Antenna & ½ in. radial ice	
	lbm	kg	lbm	kg	ft ²	m ²	ft ²	m ²
1105-2C	115.00	52.16	195.00	88.45	8.61	0.80	12.87	1.20
1105-3C	156.00	70.76	267.00	121.10	11.96	1.11	18.09	1.68
1105-4C	197.00	89.36	339.00	153.77	15.30	1.42	23.31	2.17
1105-5C	238.00	107.95	411.00	186.43	18.64	1.73	28.53	2.65
1105-6C	279.00	126.55	483.00	219.09	21.99	2.04	33.75	3.14
1105-7C	320.00	145.15	555.00	251.74	25.34	2.35	38.97	3.62
1105-8C	361.00	163.75	627.00	284.40	28.68	2.66	44.19	4.11
1105-9C	402.00	182.34	699.00	317.06	32.02	2.97	49.41	4.59
1105-10C	443.00	200.94	771.00	349.72	35.37	3.29	54.63	5.08
1105-11C	484.00	219.54	843.00	382.38	38.72	3.60	59.85	5.56
1105-12C	525.00	238.14	915.00	415.04	42.06	3.91	65.07	6.05

Mechanical Notes:

- (1) Antenna weight and wind load are approximate values for a typical structure assuming no top load. Final design loads will vary for specific projects and should be verified by an ERI representative.
- (2) Wind loads are calculated in accordance with the ANSI/TIA/EIA 222-F standard. Weight and effective wind area (CaC) includes antenna, inner transmission feed and typical support mast and mounting brackets with no ice.

Electronics Research, Inc. • 7777 Gardner Road • Chandler, IN 47610-9219 • USA | +1 812 925-6000 (tel) • +1 812 925-4030 (fax)

Your Single Source for Broadcast Solutions™ • Call Toll-free at 877 ERI-LINE • Visit Online at www.eriinc.com

1105 Series

Circularly Polarized FM Radio Antenna

Mounting Notes

The base price of ERI 1105 Series FM antennas include brackets for mounting on a tower leg or pole, from 1 to 5-inches in diameter, on a uniform cross section tower section. Brackets for mounting on tapered tower legs, larger diameter legs or poles, or face mounted; are available at additional cost. Contact ERI with tower details.

Utilize the ERI Advantage

Combine an ERI antenna with an ERI 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.

ERI Mounting 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 market. Contact Electronics Research for complete electrical and mechanical specifications.

Ordering Information

Type Number Definition

1105 - a b	
a	Number of Bays
b	Power Handling: Blank = Medium Power, C= High Power
Example:	1105-12C
Description:	ERI Model 1105 FM Antenna, twelve bay, high power

Options*

- Beam tilt (center fed antennas only)
- First null fill (center fed antennas only)
- Export packing

* Options available at additional cost.