

Model 6812B Circularly-Polarized FM Antenna

Full-Wave-Spaced

- True Circular Polarization
- Perfect for Translators
- Digital-Ready
- No Pressurization Needed
- The Choice of Campus Broadcasters
- All Stainless Steel Construction
- Designed for Pipe Mounting
- Economical
- No Factory Personnel Needed to Install
- Radomes and Deicers Available
- Special Spacing, H/V Ratios, Null Fill, Beam Tilt Available



Performance Specifications:

- Polarization: Right circular
- VSWR: 1.1 : 1 ± 100 kHz
1.2 : 1 ± 200 kHz
- Azimuth Pattern Circularity: Horizontal component ± 1.5 dB
- Input Connection: Type "N" female standard; 7/16 DIN available
- Mounting: Must be mounted on a metal pipe, 2" IPS (2-3/8 in; 60 mm) to 3" IPS (3-1/2 in; 89 mm) outside diameter. Pipe not supplied by Shively; requires 5 ft (1.5 m) of clear space on pipe above and below antenna.

Electrical Specifications:

No. of Bays	Gain		Power Rating W	No. of Bays	Gain		Power Rating W
	Power	dB			Power	dB	
1	0.46	-3.4	1000	4	2.04	3.1	1500
2	0.99	-0.04	1500	5	2.56	4.08	1500
3	1.52	1.83	1500	6	3.07	4.88	1500

Notes:

1. Gain values are for 93.1 MHz (low-band) and 103.1 MHz (high-band) and vary less than 5% at the edges. Our gain figures are calculated by factoring the directivity to allow for losses in the radiating system. Due to this conservative approach, you are assured of radiating maximum ERP by using Shively's published gain figures. Gain is provided for one polarization and is equal in circularly polarized antennas for both horizontal and vertical components. Gain will be reduced if null fill, beam tilt, special H/V ratio, or special wavelength spacing is provided.

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Model 6812B Antenna Size & Weight (Full-Wave-Spaced):

No. of Bays	Vertical Tower Space						Weight					
	Antenna Radiation Aperture		Pipe Length Required		Total Tower Space Recommended		Without radomes		With radomes		With radomes & 1/2" (1.2 cm) radial ice	
	ft	m	ft	m	ft	m	lb	N	lb	N	lb	N
1	2.0	0.6	12	3.7	22.0	6.7	3	13	38	169	81	361
2	8.5	2.6	18.5	5.6	28.5	8.7	10	45	80	357	170	758
3	17.0	5.2	27.0	8.2	37.0	11.3	17	76	122	544	259	1155
4	25.5	7.8	35.5	10.8	45.5	13.9	24	107	164	731	348	1552
5	34.0	10.4	44.0	13.4	54.0	16.5	31	138	206	919	438	1953
6	42.5	13.0	52.5	16.0	62.5	19.1	38	169	248	1106	527	2350

Antenna Windload (Full-Wave-Spaced):

No. of Bays	Revision 'C'						Revision 'F'					
	Without radomes		With radomes		With radomes & 1/2" (1.2 cm) radial ice		Without radomes		With radomes		With radomes & 1/2" (1.2 cm) radial ice	
	lb	N	lb	N	lb	N	(ft ²)	m ²	(ft ²)	m ²	(ft ²)	m ²
1	6	27	120	535	133	593	0.2	0.0	3	0.3	3.3	0.3
2	14	62	243	1084	273	1218	0.5	0.0	6.2	0.6	6.9	0.6
3	21	94	366	1632	413	1842	0.7	0.1	9.3	0.9	10.6	1.0
4	29	129	488	2176	554	2471	1.0	0.1	12.4	1.2	14.3	1.3
5	37	165	611	2725	694	3095	1.3	0.1	15.5	1.4	17.9	1.7
6	45	201	734	3274	834	3720	1.6	0.1	18.6	1.7	21.5	2.0

Notes:

- Antenna radiation aperture is the distance from the center of the top bay to the center of the bottom bay. Five ft (1.5 m) of pipe is required above the top of the top bay and below the bottom of the bottom bay. Total tower space recommended allows ten ft (3 m) of clear tower space above and below the pipe to protect from pattern interference by other antennas.
- Antennas with two bays or an odd numbers of bays are end-fed; antennas with even numbers of bays are center-fed.
- Windload and weight numbers given are typical. Actual values vary with the specific installation. Contact us with details of your installation if more precise values are needed.
- Weight, windload, and space tabulations assume 98 MHz and include the bay, interbay feedline, input connection, and standard mounting brackets. At lower frequencies, length will increase by approximately 1 ft (0.3 m) per bay.
- Antenna windloads are calculated for 112 mph (180 kph), using 50 psf (2400 N/m²) for flats and 33 psf (1600 N/m²) for rounds] per EIA standard RS-222-C and CSA standard S37-94. The surface area is calculated per EIA standard RS-222-F (C₀A₀).
- Deicers add approximately 1 lb (4.4 N) per bay in weight and 2 lb (8.9 N) or 0.3 ft² (0.028m²) per bay in windload.
- Ask for technical assistance at Shively when you are planning to mount antennas on AM towers or install them at altitudes over 3,000 ft (915 m) above mean sea level.