

Vertical polarization

10 kW power rating per bay

Radomes & deicers not required

Shively standard features:

- Low weight and windload
- Adjustable transformer standard equipment
- Rugged corrosion-resistant mounts
- Easy to Install - minimum maintenance
- Pressure relief valve for easy purging
- Pattern studies and directional patterns available

Performance specifications:

Polarization: Vertical only.
 VSWR: 1.04 : 1 ± 100 kHz
 1.08 : 1 ± 200 kHz.
 Input connection: Female 3-1/8" EIA.
 Feedline: 3-1/8" rigid



Electrical specifications:

No. of Bays	Gain		Power Rating kW	No. of Bays	Gain		Power Rating kW
	Power	dB			Power	dB	
2	1.40	1.46	20	8	5.06	7.03	40
3	2.02	4.05	30	10	6.28	7.96	40
4	2.62	4.17	40	12	7.50	8.74	40
5	3.24	5.08	40	14	8.72	9.39	40
6	3.84	5.83	40	16	9.92	9.96	40

Notes:

1. Our gain figures are derived from the computed directivity and include the losses in the antenna feed system. Gain is provided for vertical polarization only. Gain will be reduced if null fill, beam tilt, or special wavelength spacing is provided. Gain will increase in a directional array by the directivity of the azimuth pattern.

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Model 6510 size and weight (half-wave-spaced):

No. of Bays	Vertical Tower Space						Weight			
	Antenna Radiation Aperture		Physical Space Used		Total Tower Space Recommended		Without ice		With 1/2" (1.2 cm) radial ice	
	ft	m	ft	m	ft	m	lb	N	lb	N
2	5	1.6	14	4.6	25	8.2	115	513	326	1454
3	10	3.3	19	6.2	30	9.8	173	772	513	2288
4	15	4.9	24	7.9	35	11.5	231	1030	700	3122
5	20	6.6	29	9.5	40	13.1	289	1289	886	3952
6	25	8.2	34	11.2	45	14.8	347	1548	1073	4786
7	30	9.8	39	12.8	50	16.4	406	1811	1260	5620
8	35	11.5	38	12.5	55	18.0	458	2043	1423	6347
10	45	14.8	48	15.7	65	21.3	535	2386	1771	7899
12	55	18.0	58	19.0	75	24.6	652	2908	2145	9567
14	65	21.3	68	22.3	85	27.9	768	3425	2518	11230
16	75	24.6	78	25.6	95	31.2	884	3943	2892	12898

Windload (half-wave-spaced):

No. of Bays	Revision 'C'				Revision 'F'			
	Without ice		With 1/2" (1.2 cm) radial ice		Without ice		With 1/2" (1.2 cm) radial ice	
	lb	N	lb	N	(ft ²)	m ²	(ft ²)	m ²
2	265	1182	376	1677	8.9	0.83	11.8	1.10
3	416	1855	588	2622	14.0	1.30	18.6	1.73
4	566	2524	801	3572	19.0	1.77	25.4	2.36
5	717	3198	1013	4518	24.2	2.25	32.2	2.99
6	868	3871	1225	5464	29.3	2.72	39.0	3.62
7	1018	4540	1437	6409	34.4	3.20	45.8	4.25
8	1151	5133	1625	7248	38.8	3.60	51.7	4.80
10	1409	6284	1992	8884	47.9	4.45	63.9	5.94
12	1710	7627	2416	10775	58.1	5.40	77.5	7.20
14	2011	8969	2840	12666	68.3	6.35	91.1	8.46
16	2312	10312	3264	14557	78.5	7.29	104.7	9.73

Notes:

- The mounting structure must not flex more than $\pm 1/2$ in (± 1.2 cm) in any 10-ft (3-meter) section. 5 feet (1.5 m) of mounting structure is required above and below the antenna bays for proper pattern formation.
- Antenna radiation aperture is the distance from the center of the top bay to the center of the bottom bay. Physical space used is from the top of the top bay to the input flange at the bottom of the array, or the bottom of the bottom bay in a center-fed array. Total tower space recommended allows ten feet (3 m) of clear tower space above and below the antenna to protect from pattern interference by other antennas. At frequencies lower than 98 MHz, each of these dimensions will increase by up to 1 ft (0.3 m) per bay.
- Seven bays or less are normally end-fed. All antennas supplied with beam tilt will be center-fed. Antennas with an odd number of bays are normally not available with center feed.
- Windload and weight tabulations are estimates and assume 98 MHz. They include the bay, interbay feedline, input connection, and a fine-matching transformer. No values have been included in these tabulations for mounts. Actual values vary with the specific installation. Contact us with details of your installation if more precise values are needed.
- 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 (C_A).
- Ask for technical assistance at Shively if you are planning to mount antennas on AM towers or install them at altitudes over 3,000 ft (915 m) above mean sea level.