

### 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 1.06 : 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	
1	0.92	-0.36	10	7	7.74	8.89	40
2	1.98	2.97	20	8	8.92	9.50	40
3	3.10	4.91	30	10	11.3	10.53	40
4	4.24	6.27	40	12	13.7	11.37	40
5	5.40	7.32	40	14	16.1	12.07	40
6	6.56	8.17	40	16	18.5	12.67	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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 Certified to ISO-9001:2000

## Model 6510 Size and Weight (Full-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
1	4	1.3	9	3.0	20	6.6	71	317	164	731
2	10	3.3	19	6.2	30	9.8	129	575	351	1565
3	20	6.6	29	9.5	40	13.1	187	834	538	2399
4	30	9.8	39	12.8	50	16.4	245	1093	725	3234
5	40	13.1	49	16.1	60	19.7	303	1351	911	4063
6	50	16.4	59	19.4	70	23.0	361	1610	1098	4897
7	60	19.7	69	22.6	80	26.2	420	1873	1285	5731
8	70	23.0	79	25.9	90	29.5	472	2105	1448	6458
10	90	29.5	99	32.5	110	36.1	563	2511	1821	8122
12	110	36.1	119	39.0	130	42.6	680	3033	2195	9790
14	130	42.6	139	45.6	150	49.2	796	3550	2568	11453
16	150	49.2	159	52.2	170	55.8	912	4068	2942	13121

## Windload (Full-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 <sup>2</sup> )	m <sup>2</sup>	(ft <sup>2</sup> )	m <sup>2</sup>
1	158	705	221	986	4.7	0.4	6.0	0.6
2	308	1374	433	1931	9.9	0.9	13.2	1.2
3	459	2047	645	2877	15.0	1.4	20.0	1.9
4	609	2716	858	3827	20.1	1.9	26.8	2.5
5	760	3390	1070	4772	25.2	2.3	33.6	3.1
6	911	4063	1282	5718	30.3	2.8	40.4	3.8
7	1061	4732	1494	6663	35.4	3.3	47.2	4.4
8	1194	5325	1682	7502	39.8	3.7	53.1	4.9
10	1495	6668	2106	9393	50.0	4.6	66.7	6.2
12	1796	8010	2530	11284	60.2	5.6	80.3	7.5
14	2097	9353	2954	13175	70.4	6.5	93.9	8.7
16	2398	10695	3378	15066	80.6	7.5	107.5	10.0

### Notes:

- The mounting structure must not flex more than  $\pm 1/2$  in ( $\pm 1.2$  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/m<sup>2</sup>) for flats and 33 psf (1600 N/m<sup>2</sup>) for rounds] per IFA standard RS-222-C and CSA standard S37-94. The surface area is calculated per IFA standard RS-222-F (C<sub>0</sub>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.