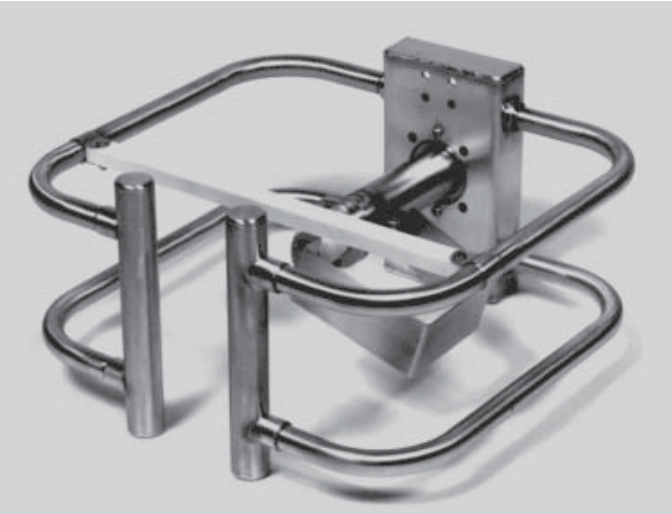
Shively Labs®

Model 6600 Horizontally-Polarized FM Antenna Full-Wave-Spaced



Horizontal polarization

Power rating: 5 kW per bay

Shively standard features:

- Ring stub design
- Low weight and windload
- Consistently predictable patterns
- Digital-ready
- Pattern studies available
- No factory personnel needed to install
- Adjustable fine-matching transformer
- Radomes and deicers available
- Rugged corrosion-resistant mounts
- Works with regular towers; no need for special frequency-sensitive tower sections
- Pressure relief valve for easy purging of the system
- Special spacing, null fill and beam tilt available

Electrical specifications:

No. of Bays	Gain		Power Rating	No. of Bays	Gain		Power Rating
	Power	dB	kW		Power	dB	kW
1	0.92	-0.36	5	7	7.74	8.89	35
2	1.98	2.97	10	8	8.92	9.50	40
3	3.10	4.91	15	10	11.30	10.53	40
4	4.24	6.27	20	12	13.70	11.37	40
5	5.40	7.32	25	14	16.10	12.07	40
6	6.56	8.17	30	16	18.50	12.67	40

Performance specifications:

Polarization: Horizontal only

VSWR: 1.08 : 1 ± 100 kHz
1.16 : 1 ± 200 kHz

Azimuth pattern circularity: ± 1.5 dB on pole.

Input connection: Female 3-1/8 in EIA

Notes:

1. Our gain figures are derived from the computed directivity and include the losses in the antenna feed system.

   Gain is provided for horizontal 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 6600 size and weight (full-wave-spaced):

No. of Bays	Vertical Tower Space						Weight					
	Antenna Radiation Aperture		Physical Space Used		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	0.7	9	3.0	20	6.6	60	268	93	415	177	789
2	10	3.3	19	6.2	30	9.8	101	450	167	745	343	1530
3	20	6.6	29	9.5	40	13.1	141	629	240	1070	509	2270
4	30	9.8	39	12.8	50	16.4	182	812	314	1400	675	3011
5	40	13.1	49	16.1	60	19.7	222	990	387	1726	841	3751
6	50	16.4	59	19.4	70	23.0	263	1173	461	2056	1007	4491
7	60	19.7	69	22.6	80	26.2	303	1351	534	2382	1173	5232
8	70	23.0	73	23.9	90	29.5	322	1436	586	2614	1296	5780
10	90	29.5	93	30.5	110	36.1	403	1797	733	3269	1628	7261
12	110	36.1	113	37.1	130	42.6	484	2159	880	3925	1960	8742
14	130	42.6	133	43.6	150	49.2	565	2520	1027	4580	2292	10222
16	150	49.2	153	50.2	170	55.8	647	2886	1175	5241	2625	11708

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	(ft2)	m2	(ft2)	m2	(ft2)	m2
1	70	312	149	665	188	838	2.2	0.2	4.2	0.4	5.1	0.5
2	140	624	297	1325	373	1664	4.6	0.4	8.6	0.8	10.8	1.0
3	210	937	445	1985	558	2489	7.0	0.7	13.0	1.2	16.5	1.5
4	280	1249	593	2645	743	3314	9.5	0.9	17.4	1.6	22.1	2.1
5	350	1561	741	3305	928	4139	11.9	1.1	21.8	2.0	27.8	2.6
6	420	1873	889	3965	1113	4964	14.3	1.3	26.2	2.4	33.4	3.1
7	490	2185	1037	4625	1298	5789	16.8	1.6	30.6	2.8	29.1	2.7
8	533	2377	1159	5169	1437	6409	18.3	1.7	34.1	3.2	43.2	4.0
10	673	3002	1455	6489	1807	8059	23.1	2.1	43.0	4.0	54.5	5.1
12	812	3622	1751	7809	2177	9709	28.0	2.6	51.8	4.8	65.8	6.1
14	952	4246	2047	9130	2548	11364	32.9	3.1	60.6	5.6	77.1	7.2
16	1092	4870	2343	10450	2918	13014	37.7	3.5	69.5	6.5	88.5	8.2

Notes:

2. The mounting structure must not flex more than ± 1/2 in in any 10-ft section. 5 ft of mounting structure is required above and below the antenna for proper pattern formation.
3. 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 of clear tower space above and below the antenna to protect from pattern interference by other antennas.
4. 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.
5. 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.
6. Antenna windloads are calculated for 112 mph (180 kph), using 50 psf (2400 N/m^2) for flats and 33 psf (1600 N/m^2) 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_aA_c).
7. Deicers add approximately 1 lb (4.4 N) per bay in weight and 2 lb (8.9 N) or 0.05 ft^2 (0.005 m^2) per bay in windload.
8. 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) AMSL.