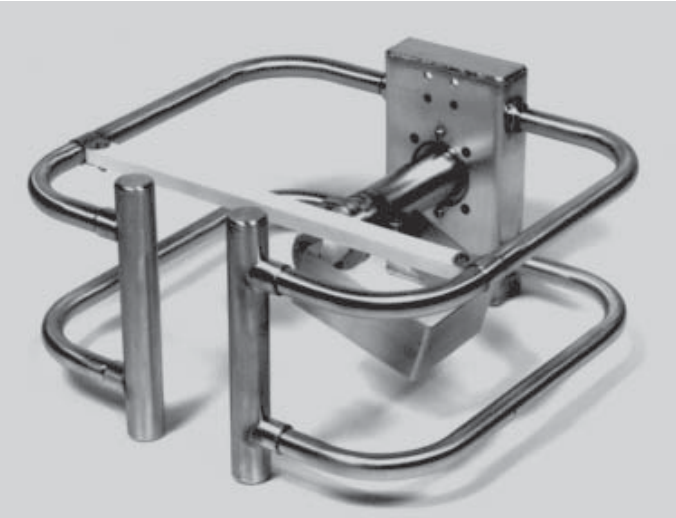
Shively Labs®

Model 6600 Horizontally-Polarized FM Antenna Half-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
2	1.40	1.46	10	8	5.06	7.03	40
3	2.02	4.05	15	10	6.28	7.96	40
4	2.62	4.17	20	12	7.50	8.74	40
5	3.24	5.08	25	14	8.70	9.39	40
6	3.84	5.83	30	16	9.92	9.96	40

Performance specifications:

Polarization: Horizontal only

VSWR: 1.06 : 1 ± 100 kHz
1.14 : 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 (half-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
2	5	1.6	14	4.6	25	8.2	87	388	153	682	318	1418
3	10	3.3	19	6.2	30	9.8	127	566	226	1008	484	2159
4	15	4.9	24	7.9	35	11.5	168	749	300	1338	650	2899
5	20	6.6	29	9.5	40	13.1	208	928	373	1664	816	3639
6	25	8.2	34	11.2	45	14.8	249	1111	447	1994	982	4380
7	30	9.8	39	12.8	50	16.4	289	1289	520	2319	1148	5120
8	35	11.5	38	12.5	55	18.0	308	1374	572	2551	1271	5669
10	45	14.8	48	15.7	65	21.3	375	1673	705	3144	1578	7038
12	55	18.0	58	19.0	75	24.6	456	2034	852	3800	1910	8519
14	65	21.3	68	22.3	85	27.9	537	2395	999	4456	2242	9999
16	75	24.6	78	25.6	95	31.2	619	2761	1147	5116	2575	11485

Windload (half-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
2	97	433	254	1133	316	1409	3.6	0.3	7.6	0.7	9.4	0.9
3	167	745	402	1793	501	2234	6.0	0.6	12.0	1.1	15.1	1.4
4	237	1057	550	2453	686	3060	8.5	0.8	16.4	1.5	20.7	1.9
5	307	1369	698	3113	871	3885	10.9	1.0	20.8	1.9	26.4	2.5
6	377	1681	846	3773	1056	4710	13.3	1.2	25.2	2.3	32.0	3.0
7	447	1994	994	4433	1241	5535	15.8	1.5	29.6	2.7	37.7	3.5
8	490	2185	1116	4977	1380	6155	17.3	1.6	33.1	3.1	41.8	3.9
10	587	2618	1369	6106	1693	7551	21.0	2.0	40.9	3.8	51.7	4.8
12	726	3238	1665	7426	2063	9201	25.9	2.4	49.7	4.6	63.0	5.9
14	866	3862	1961	8746	2434	10856	30.8	2.9	58.5	5.4	74.3	6.9
16	1006	4487	2257	10066	2803	12501	35.6	3.3	67.4	6.3	85.7	8.0

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.