

Model 6020 Vertically-Polarized FM Antenna

(USA domestic)

Vertical polarization

5 kW power rating per bay

Radomes & de-icers not required

Shively standard features:

- Low weight and windload
- Rugged corrosion-resistant adjustable mounts
- Easy to install - minimum maintenance
- Non-pressurized
- Pattern studies and directional patterns available

Performance specifications:

Polarization: Vertical only.

Frequency range: 88-108 MHz

Impedance: 50 Ω

VSWR: Better than 1.3 : 1 over the FM band

Dimensions (per bay): 56 in x 41.6 in x 5.5 in

Materials: External parts: stainless
Internal parts: copper & stainless

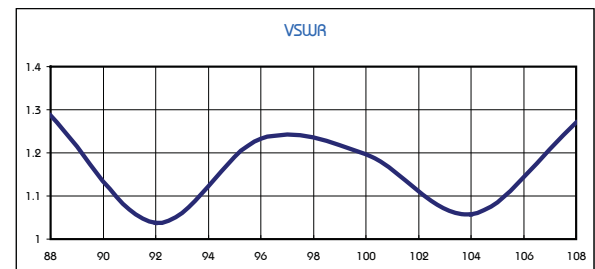
Input Connection: One bay: female 7/8" EIA.

Electrical specifications:

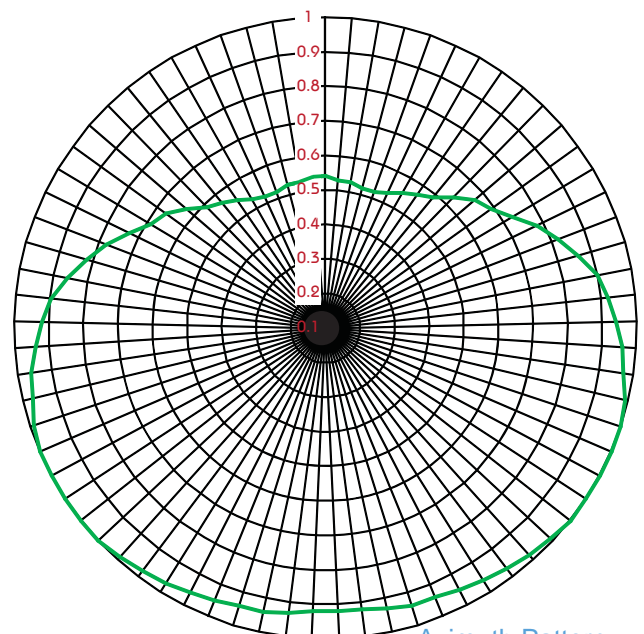
No. of bays	Gain		Power rating (kW)	Max. ERP (kW)
	Power	dB		
1	0.92	-0.36	5	4.6
2	1.98	2.97	10	19.8
3	3.10	4.91	14	43.4
4	4.24	6.27	20	118.7
5	5.40	7.32	25	151.2
6	6.56	8.17	28	183.7
7	7.74	8.89	28	216.7
8	8.92	9.50	28	249.8

NOTE

Gain and patterns depend on mounting geometry.
Gain figures are derived from the computed directivity and include the losses in the antenna feed system. Gain and patterns depend on mounting geometry.



VSWR vs. frequency



Azimuth Pattern

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Tower space & weight:

No. of Bays	Antenna Radiation Aperture	Physical Tower Space	Total Tower Space Recommended	Weight			
				Without radomes or ice	With 1/2" radial ice	With 1" radial ice	With 1-1/2" radial ice
1	4 ft	9 ft	20 ft	28 lb	41 lb	59 lb	81 lb
2	10 ft	19 ft	30 ft	111 lb	159 lb	230 lb	322 lb
3	20 ft	29 ft	40 ft	149 lb	232 lb	355 lb	519 lb
4	30 ft	39 ft	50 ft	182 lb	326 lb	536 lb	812 lb
5	40 ft	49 ft	60 ft	215 lb	410 lb	695 lb	1071 lb
6	50 ft	59 ft	70 ft	248 lb	467 lb	790 lb	1215 lb
7	60 ft	69 ft	80 ft	299 lb	590 lb	1025 lb	1602 lb
8	70 ft	79 ft	90 ft	334 lb	655 lb	1135 lb	1773 lb

NOTE

Mounts are designed to fit 1-1/2" to 3-1/2" diameter pole.
Weights are estimated.

Windload:

No. of Bays	Without ice		With 1/2" radial ice		With 1" radial ice		With 1-1/2" radial ice	
	EPA_N (ft ²)	EPA_T (ft ²)	EPA_N (ft ²)	EPA_T (ft ²)	EPA_N (ft ²)	EPA_T (ft ²)	EPA_N (ft ²)	EPA_T (ft ²)
1	1.7	0.7	2.4	1.0	2.9	1.2	3.4	1.5
2	6.0	4.0	9.2	6.4	12.0	8.6	14.1	10.4
3	10.2	7.1	16.2	12.0	21.8	16.7	27.1	21.5
4	17.6	13.5	26.9	21.3	35.5	28.6	43.5	35.9
5	24.0	18.8	37.3	30.2	50.0	41.4	62.2	52.7
6	27.0	20.9	42.1	33.7	56.7	46.4	70.5	59.2
7	35.6	28.4	57.1	47.3	77.9	66.0	97.9	84.7
8	39.3	31.1	63.0	51.9	86.2	72.5	108.3	93.2

NOTES

Windloads are estimated.

Effective projected area (EPA) is calculated in accordance with TIA-222-G.

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 above mean sea level.