Sommer XP80 Series Beam Antennas

Series XP80 - 8 m / 26-ft Boom

- **10-12-15-17-20-30-40 m**
- **Basic Kit (XP804): 4-band 10-12-15-20 m**
- **Add-on Kit (XP808): 6-17-30 and 40 m**

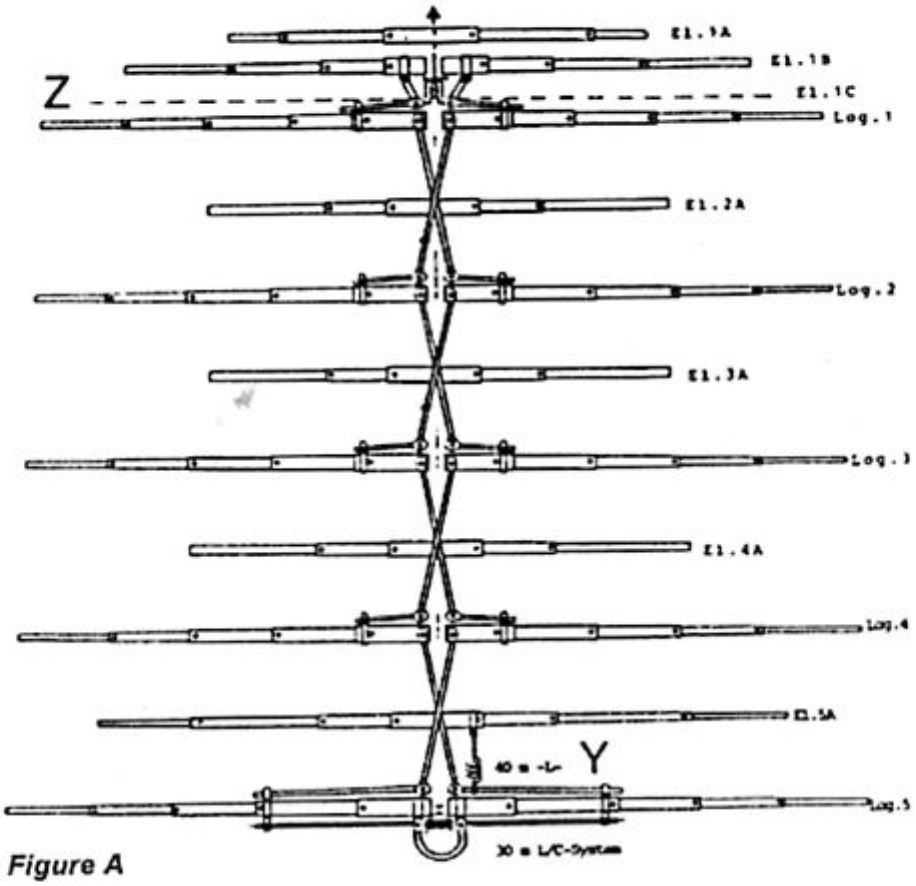


Figure A

Active Elements

20 m

5x driven full size (1/2 wavelength) elements
LOG-1 + LOG-2 + LOG-3 + LOG-4 + LOG-5

15/17 m

5x extended 1/2 wavelength plus elements about 5/8 wavelength long
LOG-1 + LOG-2 + LOG-3 + LOG-4 + LOG-5 + EL-1B on 15 m + EL-1C on 17 m + EL-5A

10/12 m

10 x 1/2 wavelength collinear elements 2 x 5 side by side
LOG-1 + LOG-2 + LOG-3 + LOG-4 + LOG-5 + EL-1A + EL-2A + EL-3A + EL-4A + EL-1B as 3/8 radiator

30/40 m

All driven elements
LOG-1 + LOG-2 + LOG-3 + LOG-4 + LOG-5 + EL-1B + EL-1C + EL-5A as "C"

Band	10	12	15	17	20	30	40
Gain dB/d*	11	10	10.5	10	10	2-4	0-3
f/b-r.**	15 ..... to 30					6-10	0
Power-r.	2 kW out cont.						
Impedance	50 Ohm Coax + Balun 1 : 1						
Physical Dimensions	804 + 30 m + 40 m				+ 17 m		
Net weight***	45 kg - 100 lbs				48 kg - 106 lbs		
Wind load***	156 dm² - 17 ft²				170 dm² - 18 ft²		
max. El. length	11.6 m - 38 ft						
Turning radius	7.0 m - 23.0 ft						

NOTE: Well-built multiband beams with driven elements have a 1-2 dB higher gain than conventional systems with the same boom length and bandwidth (better element illumination).

With a boom size of 8 m / 26 ft, the XP80 is a real surprise, even for experienced DXers! Not only in the transmitting mode, but also when receiving rare DX signals near the band ends. In critical pile-up situations, the XP80 yields an outstanding and unexpected signal reading and shows well its enormous directivity and the capability to fade-out heavy QRM interfering from the side and back.

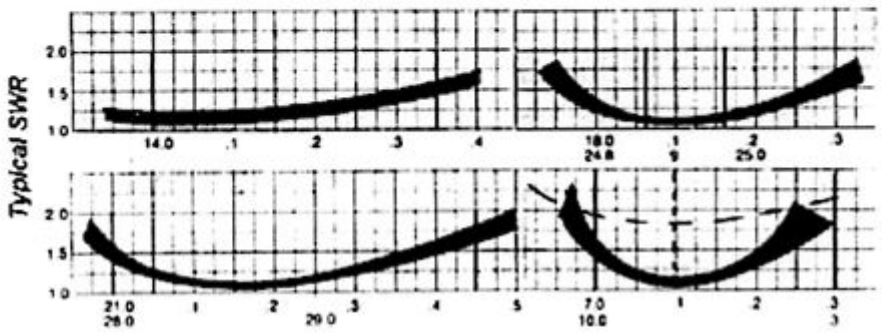
The model XP804 antenna is shown in Figure A. In this configuration the 20m band is using five actively driven full-size elements and turns out a solid 10 dB/D forward gain.

For the **15 m (and 17 m) band**, five directly fed 5/8-wave elements, in conjunction with elements 1B and 5A, provide a typical 10.5 dB/D forward gain. Operation on 17 meters requires an optional 8.2 m (26 ft) element at boom location **Z** which does not influence the 10-20 m settings, but has the same properties on 15 m.

All elements are working on **10 and 12 meters** and contribute to a 10-11 dB/D gain.

A coaxial T-match system on Log. 5 enables operation on the **30 m band** without any mechanical extensions. The typical gain with this configuration is about 0 dB/D.

The **40m band** is activated by use of an individual power coil at **Y**, yielding a 0 to 3 dB/D gain on this band.



Remember, a 3-element monoband beam has 4 to 6 dB/D (see ARRL Antenna Book).

Notes:

* Gain determined in the main lobe as described in the ARRL Antenna Book, 14th ed. pg. 15-23. Measurement accuracy according to CCIR plus/minus 2dB.

** F/B ratio and SWR vary according to conditions--e.g., electrical height above ground.

*** Plus or minus10%