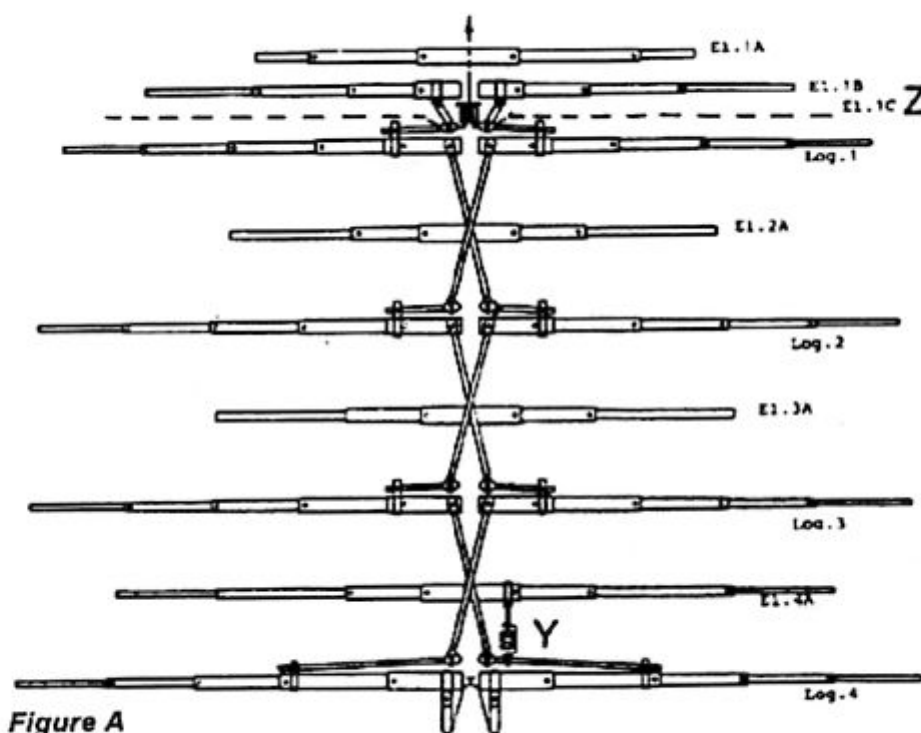


# Sommer XP70 Series Beam Antennas

## Series XP70 - 6 m / 20-ft Boom

- 6-10-12-15-17-20-30-40 m
- Basic Kit (XP704): 4-band 10-12-15-20 m
- Add-on Kit (XP708): 6-17-30 and 40m



### Active Elements

20 m

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

15/17 m

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

10/12 m

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

30/40 m

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

**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).

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|                     |                           |       |    |       |                  |      |     |
|---------------------|---------------------------|-------|----|-------|------------------|------|-----|
| Band                | 10                        | 12    | 15 | 17    | 20               | 30   | 40  |
| Gain dB/d*          | 9.5                       | 7.5   | 9  | 9     | 9                | 0-3  | 0-2 |
| l/b-r.**            | 15                        | ..... | 10 | ..... | 30               | 0-10 | 0   |
| Power-r.            | 2 kW out cont.            |       |    |       |                  |      |     |
| Impedance           | 50 Ohm Coax + Balun 1 : 1 |       |    |       |                  |      |     |
| Physical Dimensions | 704 + 30 m + 40 m         |       |    |       | + 17 m           |      |     |
| Net weight***       | 37 kg - 82 lbs            |       |    |       | 40 kg - 90 lbs   |      |     |
| Wind load***        | 124 dm² - 13 ft²          |       |    |       | 134 dm² - 14 ft² |      |     |
| max. El. length     | 11.6 m - 38 ft            |       |    |       |                  |      |     |
| Turning radius      | 6.6 m - 21.5 ft           |       |    |       |                  |      |     |

The XP70 series beams are designed for the amateur with all-out performance in mind. Although the boom length is only 20 feet, XP 70s have easily outpaced much larger, conventional antennas in careful testing. The key is the **total** elimination of traps, which rob performance from even the largest of multiband antennas. Because of their high efficiency, XP70 series antennas suitably replace 4- and 5-element antennas of conventional design.

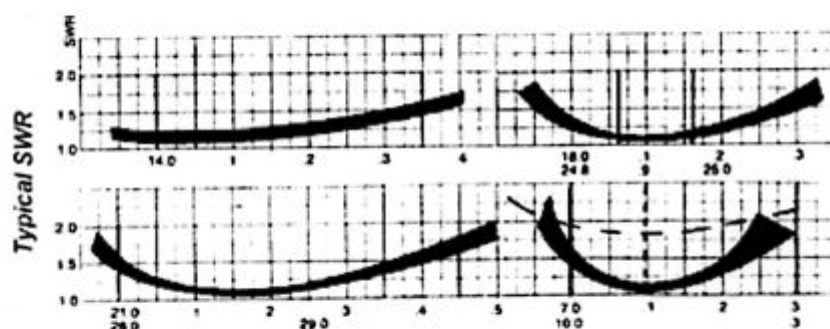
For the **15 m (and 17 m) bands**, four directly fed 5/8-wave elements in conjunction with elements 1B and 4A form

a typical band gain of 9 dB/D. Operation on 17 meters requires an optional 8.2 (26 ft) element at boom location Z which does not influence the 10-20 settings but has the same properties on 15 meters.

All elements are working on the **10 and 12 meter bands** and contribute to a 9.5 dB/D gain.

Coaxial stub housed in a plastic box enables operation on the **30 m band** without any mechanical extension. Using this configuration, the typical gain is about 2 dB/D.

**The 40 m band** is activated by use of an individual power coil mounted at Y, which yields a 0 to 2 dB/D gain on this band.



The bandwidth on 40 m varies significantly with antenna height and electrical surroundings. Typical is an SWR of 2:1 over a bandwidth of 100-300 kHz.

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 minus 10%