

About this Article

This material was included with the downloadable supplemental content accompanying the *ARRL Antenna Book*.

You may print a copy of this material for personal use. Any other use of the information requires permission from the ARRL.

Copyright/Reprint Notice

In general, all ARRL content is copyrighted. ARRL articles, pages, or documents – printed and online – are not in the public domain. Therefore, they may not be freely distributed or copied. Additionally, no part of this document may be copied, sold to third parties, or otherwise commercially exploited without the explicit prior written consent of the ARRL. You cannot post this document to a website or otherwise distribute it to other through any electronic medium.

For permission to quote or reprint material from ARRL, send a request including the issue date, a description of the material requested, and a description of where you intend to use the reprinted material to the ARRL Editorial and Production staff at: **permission@arrl.org**.

Coiled Coax Balun Measurements

Ed Gilbert, K2SQ, measured a series of coaxial-coil baluns with a Hewlett-Packard 4193A vector-impedance meter. He constructed the coiled-coax baluns using either 4-inch or 6-inch plastic pipe. The Table below lists the results.

K2SQ Measurements on Coiled-Coax Baluns

	6 T, 4.25 in. 1 Layer	12 T, 4.25 in. 1 Layer	4 T, 6.625 in. 1 Layer	8 T, 6.625 in. 1 Layer	8 T, 6.625 in. Bunched
Freq.	Z, Phase	Z, Phase	Z, Phase	Z, Phase	Z, Phase
MHz	Ω°	Ω°	Ω°	Ω°	Ω°
1	26/88.1	65/89.2	26/88.3	74/89.2	94/89.3
2	51/88.7	131/89.3	52/88.8	150/89.3	202/89.2
3	77/88.9	200/89.4	79/89.1	232/89.3	355/88.9
4	103/89.1	273/89.5	106/89.3	324/89.4	620/88.3
5	131/89.1	356/89.4	136/89.2	436/89.3	1300/86.2
6	160/89.3	451/89.5	167/89.3	576/89.1	8530/59.9
7	190/89.4	561/89.5	201/89.4	759/89.1	2120/-81.9
8	222/89.4	696/89.6	239/89.4	1033/88.8	1019/-85.7
9	258/89.4	869/89.5	283/89.4	1514/87.3	681/-86.5
10	298/89.3	1103/89.3	333/89.2	2300/83.1	518/-86.9
11	340/89.3	1440/89.1	393/89.2	4700/73.1	418/-87.1
12	390/89.3	1983/88.7	467/88.9	15840/-5.2	350/-87.2
13	447/89.2	3010/87.7	556/88.3	4470/-62.6	300/-86.9
14	514/89.3	5850/85.6	675/88.3	2830/-71.6	262/-86.9
15	594/88.9	42000/44.0	834/87.5	1910/-79.9	231/-87.0
16	694/88.8	7210/-81.5	1098/86.9	1375/-84.1	203/-87.2
17	830/88.1	3250/-82.0	1651/81.8	991/-82.4	180/-86.9
18	955/86.0	2720/-76.1	1796/70.3	986/-67.2	164/-84.9
19	1203/85.4	1860/-80.1	3260/44.6	742/-71.0	145/-85.1
20	1419/85.2	1738/-83.8	3710/59.0	1123/-67.7	138/-84.5
21	1955/85.7	1368/-87.2	12940/-31.3	859/-84.3	122/-86.1
22	3010/83.9	1133/-87.7	3620/-77.5	708/-86.1	107/-85.9
23	6380/76.8	955/-88.0	2050/-83.0	613/-86.9	94/-85.5
24	15980/-29.6	807/-86.3	1440/-84.6	535/-86.3	82/-85.0
25	5230/-56.7	754/-82.2	1099/-84.1	466/-84.1	70/-84.3
26	3210/-78.9	682/-86.4	967/-83.4	467/-81.6	60/-82.7
27	2000/-84.4	578/-87.3	809/-86.5	419/-85.5	49/-81.7
28	1426/-85.6	483/-86.5	685/-87.1	364/-86.2	38/-79.6
29	1074/-85.1	383/-84.1	590/-87.3	308/-85.6	28/-75.2
30	840/-83.2	287/-75.0	508/-87.0	244/-82.1	18/-66.3
31	661/-81.7	188/-52.3	442/-85.7	174/-69.9	9/-34.3
32	484/-78.2	258/20.4	385/-83.6	155/-18.0	11/37.2
33	335/-41.4	1162/-13.5	326/-78.2	569/-0.3	21/63.6
34	607/-32.2	839/-45.9	316/-63.4	716/-57.6	32/71.4
35	705/-58.2	564/-56.3	379/-69.5	513/-72.5	46/76.0