

K&S Brass Concentric Tubing Coax Line Impedance Table
 where $Z_0 = 138 \log_{10}(a/b)$

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 rev. 1 4/8/05

"a" OD decimal	SHIELD		"a" ID decimal	"b" OD -- (inner conductor diameter in 32nds and decimal inches)																							
	"a" OD in 32nds	"a" ID in 32nds		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
0.78125	25	24	0.7500	148.9	124.6	107.4	94.0	83.1	73.8	65.8	58.8	52.5	46.8	41.5	36.7	32.3	28.2	24.3	20.7	17.2	14.0	10.9	8.0	5.2	2.6	0.0	
0.75	24	23	0.7188	146.4	122.1	104.8	91.5	80.5	71.3	63.3	56.2	49.9	44.2	39.0	34.2	29.8	25.6	21.7	18.1	14.7	11.5	8.4	5.5	2.7	0.0		
0.71875	23	22	0.6875	143.7	119.4	102.2	88.8	77.9	68.6	60.6	53.6	47.3	41.5	36.3	31.5	27.1	23.0	19.1	15.5	12.0	8.8	5.7	2.8	0.0			
0.6875	22	21	0.6563	140.9	116.6	99.4	86.0	75.1	65.8	57.8	50.8	44.5	38.8	33.5	28.7	24.3	20.2	16.3	12.7	9.2	6.0	2.9	0.0				
0.65625	21	20	0.6250	138.0	113.7	96.5	83.1	72.2	62.9	54.9	47.9	41.5	35.8	30.6	25.8	21.4	17.2	13.4	9.7	6.3	3.1	0.0					
0.625	20	19	0.5938	134.9	110.6	93.4	80.0	69.1	59.8	51.8	44.8	38.5	32.8	27.5	22.7	18.3	14.2	10.3	6.7	3.2	0.0						
0.59375	19	18	0.5625	131.7	107.4	90.1	76.8	65.8	56.6	48.6	41.5	35.2	29.5	24.3	19.5	15.1	10.9	7.1	3.4	0.0							
0.5625	18	17	0.5313	128.3	104.0	86.7	73.3	62.4	53.2	45.2	38.1	31.8	26.1	20.9	16.1	11.6	7.5	3.6	0.0								
0.53125	17	16	0.5000	124.6	100.3	83.1	69.7	58.8	49.5	41.5	34.5	28.2	22.5	17.2	12.4	8.0	3.9	0.0									
0.5	16	15	0.4688	120.8	96.5	79.2	65.8	54.9	45.7	37.7	30.6	24.3	18.6	13.4	8.6	4.1	0.0										
0.46875	15	14	0.4375	116.6	92.3	75.1	61.7	50.8	41.5	33.5	26.5	20.2	14.5	9.2	4.4	0.0											
0.4375	14	13	0.4063	112.2	87.9	70.6	57.3	46.3	37.1	29.1	22.0	15.7	10.0	4.8	0.0												
0.40625	13	12	0.3750	107.4	83.1	65.8	52.5	41.5	32.3	24.3	17.2	10.9	5.2	0.0													
0.375	12	11	0.3438	102.2	77.9	60.6	47.3	36.3	27.1	19.1	12.0	5.7	0.0														
0.34375	11	10	0.3125	96.5	72.2	54.9	41.5	30.6	21.4	13.4	6.3	0.0															
0.3125	10	9	0.2813	90.1	65.8	48.6	35.2	24.3	15.1	7.1	0.0																
0.28125	9	8	0.2500	83.1	58.8	41.5	28.2	17.2	8.0	0.0																	
0.25	8	7	0.2188	75.1	50.8	33.5	20.2	9.2	0.0																		
0.21875	7	6	0.1875	65.8	41.5	24.3	10.9	0.0																			
0.1875	6	5	0.1563	54.9	30.6	13.4	0.0																				
0.15625	5	4	0.1250	41.5	17.2	0.0																					
0.125	4	3	0.0938	24.3	0.0																						
0.09375	3	2	0.0625	0.0																							

- 1) K&S tubing comes in 1/32 inch increments (1/16 min)
- 2) 1/4 wave match 50/75 = sqrt(50*75) = 61.2
- 3)

Z ₀	a/b
48.0	2.2275
49.0	2.2650
50.0	2.3031
51.0	2.3419
52.0	2.3813

