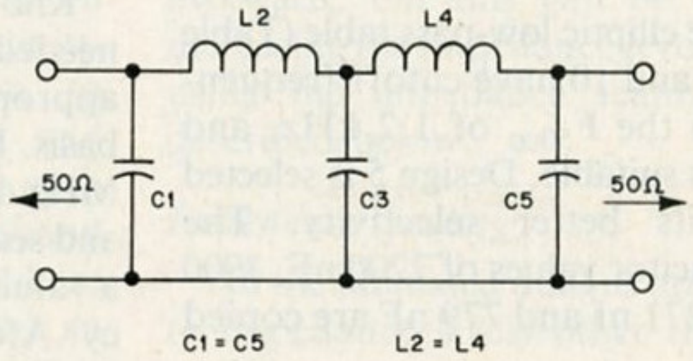
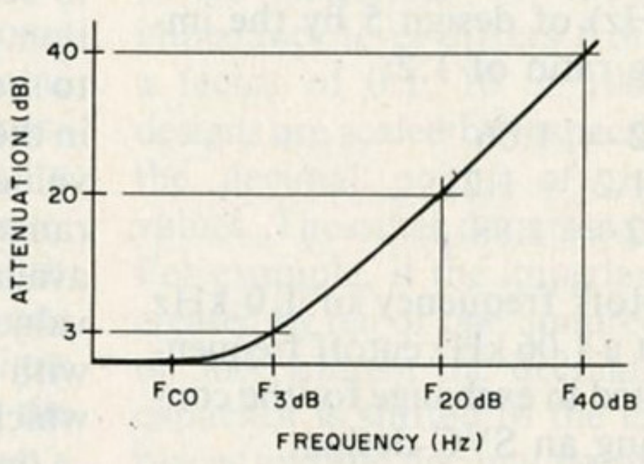
Table 11

5-Element Chebyshev Low-pass Filter Designs
50-ohm Impedance, C-In/Out
For Standard E24 Capacitor Values

Filter No.	Frequency (MHz)				Max.	C1,5	L2,4	C3
	F_{co}	3 dB	20 dB	40 dB	SWR	(pF)	(μH)	(pF)
1	1.01	1.15	1.53	2.25	1.355	3600	10.8	6200
2	1.02	1.21	1.65	2.45	1.212	3000	10.7	5600
3	1.15	1.29	1.71	2.51	1.391	3300	9.49	5600
4	1.10	1.32	1.81	2.69	1.196	2700	9.88	5100
5	1.25	1.41	1.88	2.75	1.386	3000	8.67	5100
6	1.04	1.37	1.94	2.94	1.085	2200	9.82	4700
7	1.15	1.41	1.95	2.92	1.155	2400	9.37	4700
8	1.32	1.50	2.01	2.96	1.332	2700	8.29	4700
9	1.13	1.50	2.12	3.22	1.081	2000	9.00	4300
10	1.26	1.54	2.13	3.19	1.157	2200	8.56	4300
11	1.39	1.61	2.18	3.21	1.276	2400	7.88	4300
12	1.05	1.62	2.38	3.66	1.028	1600	8.35	3900
13	1.23	1.65	2.34	3.55	1.076	1800	8.19	3900
14	1.39	1.70	2.35	3.51	1.159	2000	7.75	3900
15	1.55	1.79	2.41	3.55	1.295	2200	7.05	3900
16	1.17	1.76	2.57	3.94	1.033	1500	7.70	3600
17	1.27	1.77	2.55	3.88	1.057	1600	7.64	3600
18	1.46	1.82	2.54	3.81	1.135	1800	7.28	3600
19	1.65	1.92	2.59	3.83	1.268	2000	6.64	3600
20	1.88	2.08	2.73	3.97	1.497	2200	5.70	3600
21	1.43	1.94	2.77	4.21	1.068	1500	6.96	3300
22	1.54	1.97	2.77	4.17	1.109	1600	6.79	3300
23	1.76	2.07	2.81	4.17	1.238	1800	6.21	3300
24	2.02	2.25	2.96	4.31	1.470	2000	5.31	3300
25	1.31	2.10	3.11	4.79	1.022	1200	6.43	3000
26	1.48	2.12	3.06	4.68	1.046	1300	6.39	3000
27	1.75	2.19	3.05	4.57	1.135	1500	6.07	3000
28	1.89	2.25	3.08	4.57	1.206	1600	5.77	3000
29	2.19	2.45	3.23	4.71	1.440	1800	4.92	3000
30	1.51	2.34	3.44	5.29	1.026	1100	5.78	2700
31	1.70	2.36	3.40	5.17	1.057	1200	5.73	2700
32	1.87	2.40	3.38	5.10	1.104	1300	5.57	2700
33	2.20	2.56	3.46	5.11	1.268	1500	4.98	2700
34	2.39	2.69	3.56	5.21	1.406	1600	4.53	2700
35	1.75	2.63	3.85	5.91	1.033	1000	5.14	2400
36	1.99	2.67	3.81	5.78	1.072	1100	5.05	2400
37	2.19	2.74	3.81	5.71	1.135	1200	4.85	2400
38	2.40	2.84	3.86	5.73	1.227	1300	4.55	2400
39	1.89	2.87	4.21	6.47	1.030	910	4.71	2200
40	2.14	2.91	4.16	6.31	1.068	1000	4.64	2200
41	2.39	2.99	4.16	6.23	1.135	1100	4.45	2200
42	2.64	3.11	4.22	6.25	1.238	1200	4.14	2200
43	2.93	3.29	4.36	6.39	1.398	1300	3.71	2200
44	2.05	3.16	4.64	7.13	1.028	820	4.28	2000
45	2.36	3.20	4.57	6.94	1.068	910	4.22	2000
46	2.63	3.28	4.57	6.86	1.135	1000	4.05	2000
47	2.93	3.43	4.65	6.89	1.251	1100	3.73	2000
48	3.29	3.67	4.85	7.07	1.440	1200	3.28	2000
49	2.34	3.51	5.14	7.88	1.033	750	3.85	1800
50	2.63	3.56	5.08	7.71	1.069	820	3.79	1800
51	2.96	3.66	5.09	7.62	1.145	910	3.61	1800
52	3.30	3.84	5.19	7.67	1.268	1000	3.32	1800
53	3.76	4.15	5.45	7.93	1.497	1100	2.85	1800
54	2.70	3.96	5.76	8.82	1.039	680	3.42	1600
55	3.06	4.03	5.71	8.63	1.086	750	3.34	1600
56	3.38	4.14	5.73	8.57	1.159	820	3.18	1600
57	3.82	4.39	5.89	8.67	1.311	910	2.86	1600
58	2.77	4.21	6.18	9.48	1.030	620	3.21	1500
59	3.14	4.26	6.10	9.26	1.067	680	3.17	1500
60	3.51	4.38	6.10	9.14	1.135	750	3.03	1500
61	3.88	4.56	6.20	9.17	1.241	820	2.82	1500
62	4.46	4.95	6.51	9.48	1.473	910	2.41	1500
63	3.39	4.88	7.08	10.8	1.044	560	2.77	1300
64	3.84	4.98	7.02	10.6	1.097	620	2.70	1300
65	4.26	5.14	7.08	10.5	1.181	680	2.55	1300
66	4.79	5.46	7.29	10.7	1.341	750	2.28	1300
67	3.61	5.28	7.68	11.8	1.039	510	2.56	1200
68	4.06	5.36	7.61	11.5	1.083	560	2.51	1200
69	4.55	5.54	7.65	11.4	1.167	620	2.37	1200
70	5.07	5.84	7.84	11.5	1.304	680	2.16	1200
71	3.96	5.76	8.38	12.8	1.041	470	2.35	1100
72	4.39	5.84	8.31	12.6	1.079	510	2.31	1100
73	4.88	6.01	8.33	12.5	1.152	560	2.20	1100
74	5.50	6.34	8.54	12.6	1.293	620	1.99	1100
75	4.40	6.34	9.20	14.1	1.043	430	2.13	1000
76	4.91	6.45	9.13	13.8	1.087	470	2.09	1000
77	5.38	6.62	9.17	13.7	1.154	510	2.00	1000
78	6.00	6.95	9.37	13.8	1.282	560	1.83	1000
79	4.81	6.97	10.1	15.5	1.042	390	1.94	910
80	5.43	7.09	10.0	15.2	1.091	430	1.89	910
81	6.00	7.31	10.1	15.1	1.167	470	1.80	910
82	6.60	7.64	10.3	15.2	1.283	510	1.66	910
83	4.86	7.69	11.4	17.5	1.023	330	1.76	820
84	5.51	7.76	11.2	17.1	1.052	360	1.74	820
85	6.07	7.89	11.1	16.8	1.095	390	1.70	820
86	6.77	8.17	11.2	16.7	1.184	430	1.60	820
87	7.54	8.61	11.5	17.0	1.327	470	1.45	820
88	5.26	8.40	12.4	19.2	1.022	300	1.61	750
89	6.04	8.49	12.2	18.7	1.052	330	1.59	750
90	6.70	8.64	12.2	18.4	1.101	360	1.55	750
91	7.33	8.89	12.3	18.3	1.175	390	1.48	750
92	8.24	9.42	12.6	18.5	1.327	430	1.33	750
93	6.69	9.36	13.5	20.6	1.054	300	1.44	680
94	7.48	9.56	13.4	20.2	1.110	330	1.40	680
95	8.25	9.89	13.6	20.2	1.196	360	1.32	680
96	9.10	10.4	13.9	20.4	1.328	390	1.20	680
97	7.21	10.2	14.8	22.6	1.048	270	1.32	620
98	8.18	10.5	14.7	22.2	1.107	300	1.28	620
99	9.11	10.9	14.9	22.1	1.203	330	1.19	620
100	10.1	11.5	15.3	22.5	1.355	360	1.08	620
101	7.82	11.3	16.4	25.1	1.042	240	1.19	560
102	9.02	11.6	16.3	24.6	1.105	270	1.16	560
103	8.66	12.4	18.0	27.6	1.044	220	1.09	510
104	9.64	12.6	17.9	27.1	1.088	240	1.06	510
105	9.22	13.5	19.6	30.0	1.039	200	1.00	470
106	9.85	14.7	21.5	33.0	1.034	180	0.919	430



(A)



(B)

The schematic for a 5-element capacitor input/output Chebyshev low-pass filter is shown at A. At B is the typical attenuation response curve.