

ALEX – HPSDR TX FILTER SIMULATIONS

VERSION 6.2

July 24, 2007

Graham / KE9H

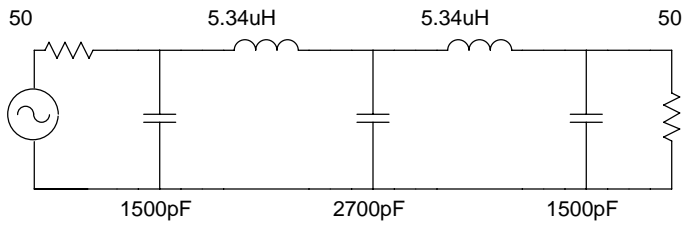
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NOTES:

1. The 6 Meter coils are likely air wound, rather than toroids.
2. High voltage RF Power chip caps are available for values below 1000pf in C1210 sizes.

TX LPF 160M



Elsie

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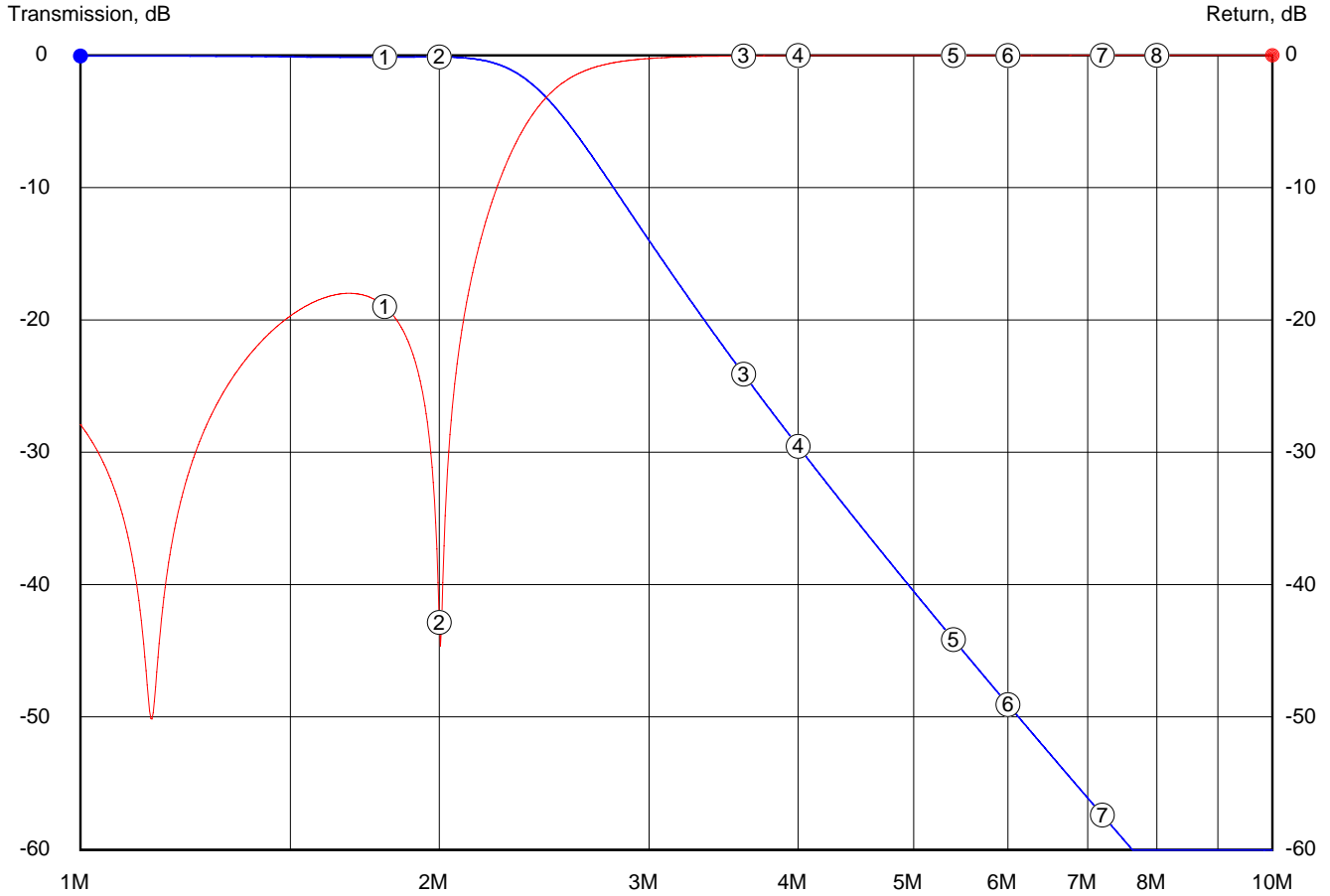
Bandwidth: 2.2M Family: Chebycheff Passband ripple: 0.1

Stopband freq: 10M

C:\Program Files\Elsie\ALEX-B\TX LPF Filters\TX_160M.LCT

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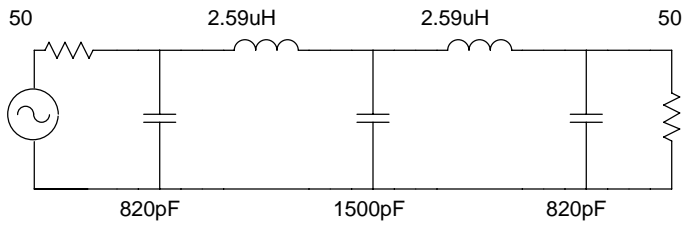
TX LPF 160M



Details of markers:

Frequency:	Trans.:	Angle:	Return:	Delay:	VSWR:	Zin:	Zangle:	Real:	Imaginary:
1 1.8M	-0.14505	-175.81	-18.967	335.5n	1.2538	50.926	12.809	49.659	-11.291
2 2M	-0.12054	157.92	-42.819	400.2n	1.0146	50.366	0.71515	50.362	-0.62864
3 3.6M	-24.071	-9.575	-0.04525	88.4n	383.87	41.572	89.696	0.22029	-41.572
4 4M	-29.522	-20.262	-0.02413	63.02n	719.78	34.276	89.829	0.10211	-34.276
5 5.4M	-44.108	-41.303	-0.00839	28.25n	>1000	22.225	89.925	0.02891	-22.225
6 6M	-49.02	-46.666	-0.00648	21.97n	>1000	19.489	89.937	0.0215	-19.489
7 7.2M	-57.363	-54.354	-0.00441	14.51n	>1000	15.731	89.949	0.01395	-15.731
8 8M	-62.118	-58.067	-0.00362	11.51n	>1000	13.973	89.954	0.01123	-13.973

TX LPF 80M



Elsie

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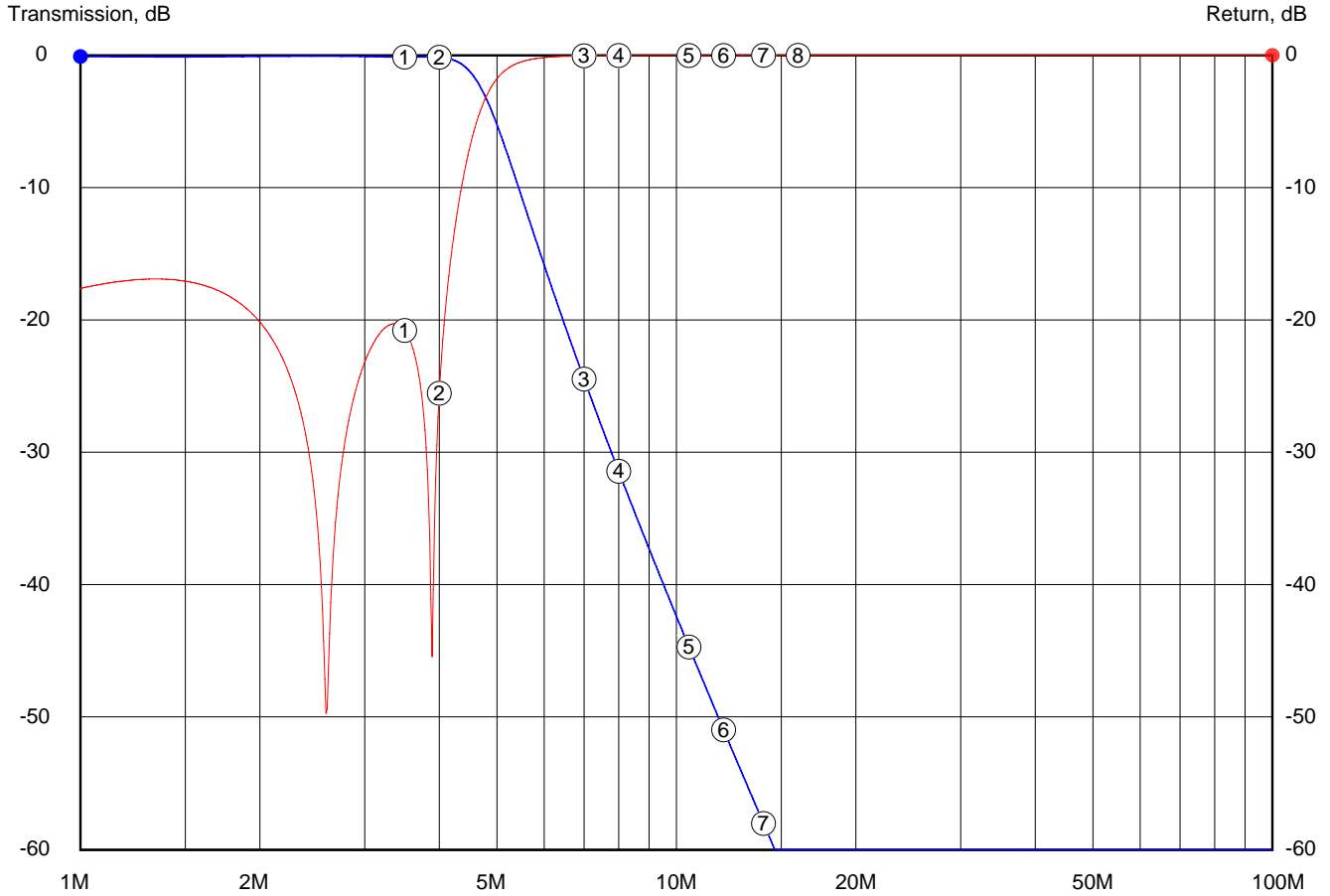
Bandwidth: 4M Family: Chebycheff Passband ripple: 0.1

Stopband freq: 10M

C:\Program Files\Elsie\ALEX-B\TX LPF Filters\TX_80M.LCT

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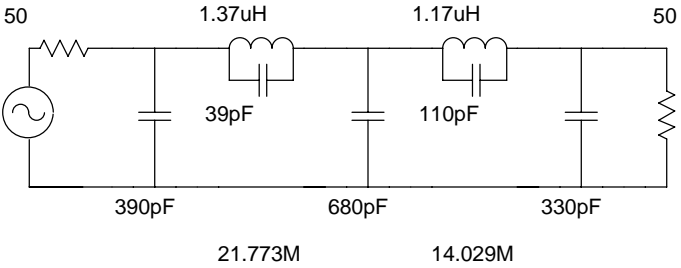
TX LPF 80M



Details of markers:

Frequency:	Trans.:	Angle:	Return:	Delay:	VSWR:	Zin:	Zangle:	Real:	Imaginary:
1 3.5M	-0.12727	-177.42	-20.767	174.4n	1.2015	50.477	10.447	49.641	-9.1528
2 4M	-0.14608	147.56	-25.51	219.6n	1.112	53.538	-4.6436	53.362	4.3343
3 7M	-24.453	-13.134	-0.0431	44.75n	403.03	39.008	89.707	0.19957	-39.007
4 8M	-31.41	-25.973	-0.02013	29.03n	863.19	30.738	89.851	0.07981	-30.738
5 10.5M	-44.684	-43.866	-0.008	13.95n	>1000	20.898	89.926	0.02705	-20.898
6 12M	-50.93	-50.242	-0.00579	10.12n	>1000	17.715	89.939	0.01874	-17.715
7 14M	-58.001	-56.313	-0.00418	7.111n	>1000	14.796	89.949	0.0131	-14.796
8 16M	-64.039	-60.707	-0.00326	5.294n	>1000	12.74	89.955	0.00999	-12.74

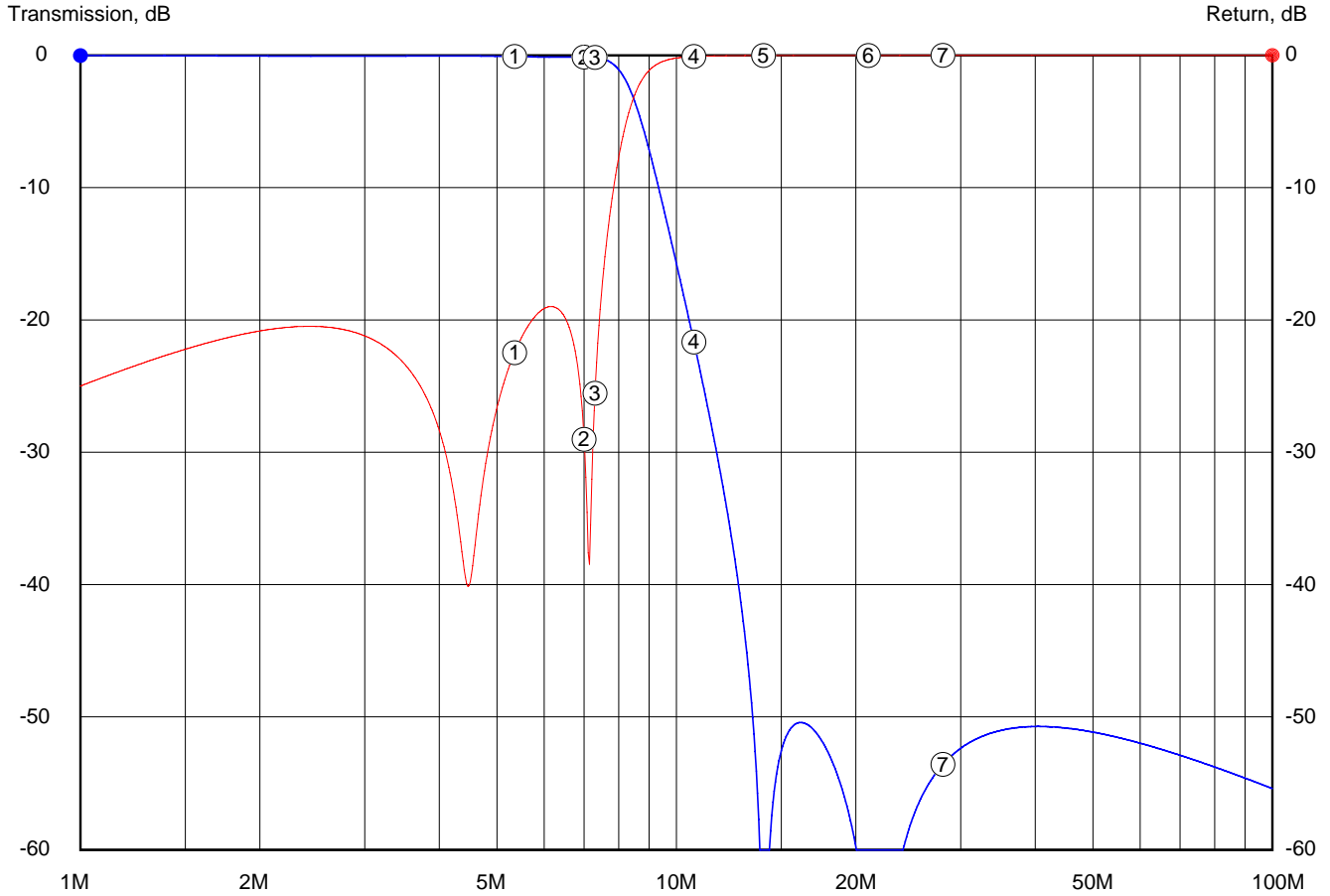
TX LPF 60-40M



Elsie
7/24/2007 5:25:32 PM

Bandwidth: 8M Family: Cauer Passband ripple: 0.22081
Stopband freq: 10M Stopband depth: 35
C:\Program Files\Elsie\ALEX-B\TX LPF Filters\TX_60-40M.LCT
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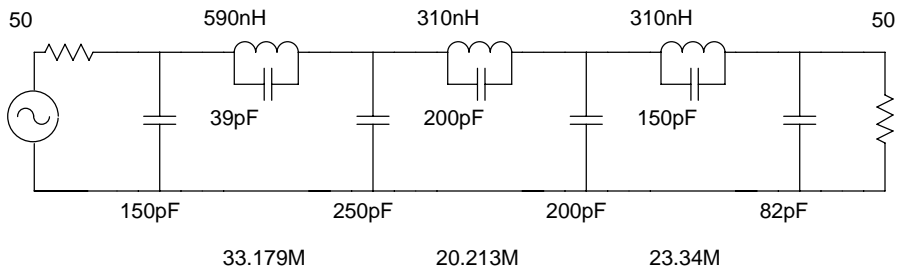
TX LPF 60-40M



Details of markers:

Frequency:	Trans.:	Angle:	Return:	Delay:	VSWR:	Zin:	Zangle:	Real:	Imaginary:
1 5.35M	-0.08958	-127.61	-22.449	81.56n	1.1632	55.391	6.3468	55.051	-6.1233
2 7M	-0.13066	175.78	-28.998	118.3n	1.0736	48.542	3.6953	48.441	-3.1286
3 7.3M	-0.16393	162.05	-25.508	134.9n	1.112	50.605	-6.033	50.325	5.3187
4 10.7M	-21.651	14.735	-0.08825	47.78n	196.85	63.15	89.402	0.65915	-63.146
5 14M	-74.407	33.138	-0.01931	-1.324u	899.46	34.474	89.864	0.08201	-34.473
6 21M	-67.42	137.2	-0.00649	-7.947n	>1000	19.58	89.937	0.02155	-19.58
7 28M	-53.541	-59.106	-0.00367	3.043n	>1000	14.031	89.953	0.01139	-14.031

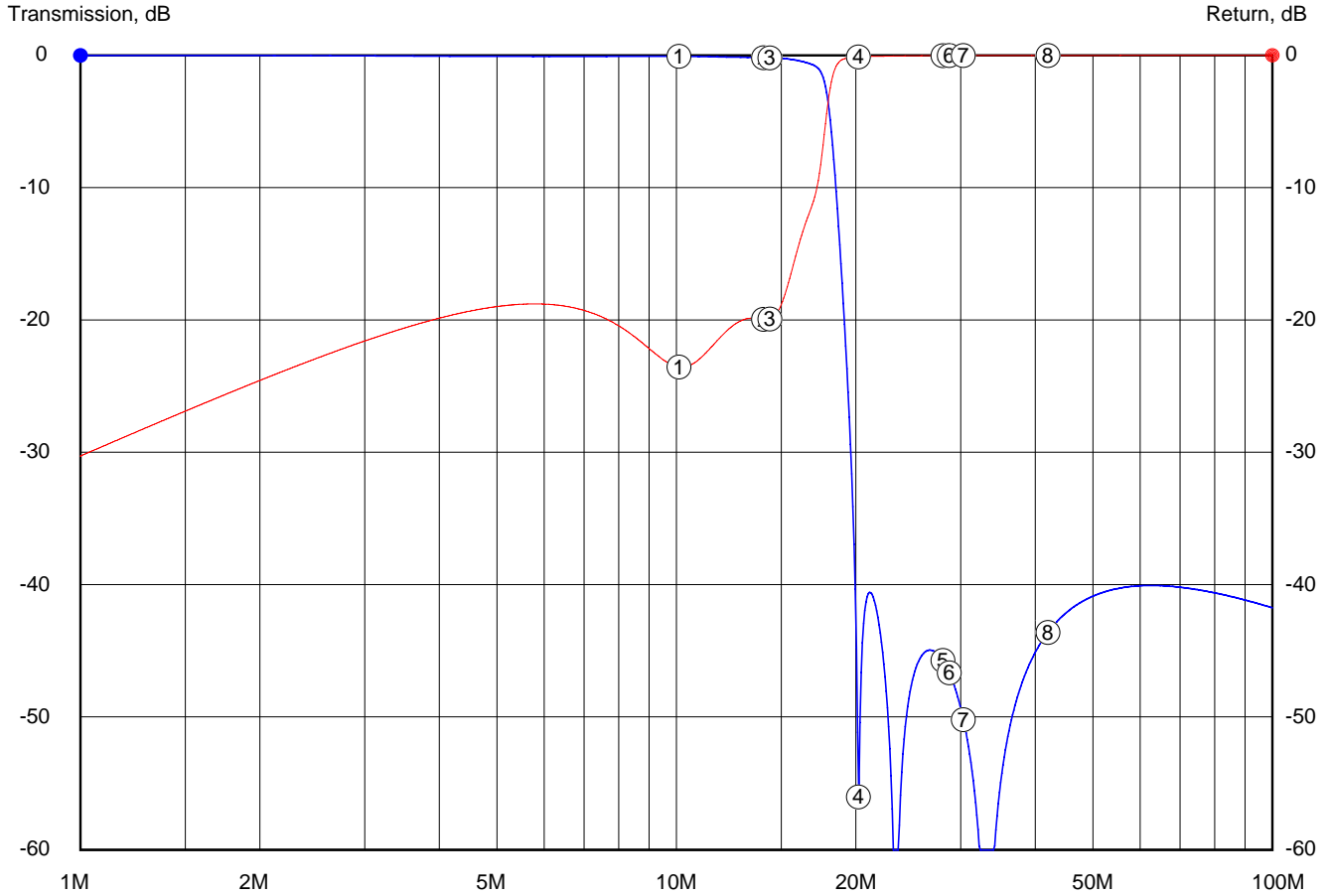
TX LPF 30-20Meters



Elsie
7/24/2007 5:23:40 PM

Bandwidth: 15.5M Family: Cauer Passband ripple: 0.02006
Stopband freq: 18M Stopband depth: 40
C:\Program Files\Elsie\ALEX-B\TX LPF Filters\TX_30-20M.LCT
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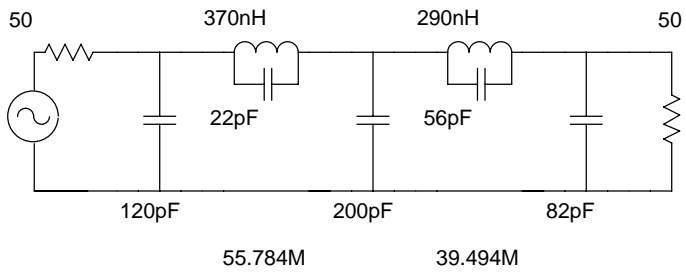
TX LPF 30-20Meters



Details of markers:

Frequency:	Trans.:	Angle:	Return:	Delay:	VSWR:	Zin:	Zangle:	Real:	Imaginary:
1 10.1M	-0.0829	-116.97	-23.531	40.44n	1.1427	50.195	-7.6173	49.752	6.6536
2 14M	-0.17725	173.49	-19.937	63.18n	1.224	61.153	1.013	61.143	-1.0811
3 14.35M	-0.18973	165.22	-19.914	67.43n	1.2247	61.231	0.24373	61.231	-0.26047
4 20.2M	-56.004	-35.486	-0.11993	-1.552u	144.86	131.49	88.809	2.7322	-131.46
5 28M	-45.689	174.17	-0.02589	10.89n	670.97	42.603	89.827	0.12862	-42.603
6 28.7M	-46.622	171.57	-0.02382	9.913n	729.25	40.68	89.84	0.11395	-40.679
7 30.3M	-50.158	166.61	-0.01998	7.376n	869.38	36.977	89.862	0.08897	-36.977
8 42M	-43.569	-40.256	-0.00847	3.624n	>1000	23.097	89.927	0.02958	-23.097

TX LPF 17 - 15 M



Elsie

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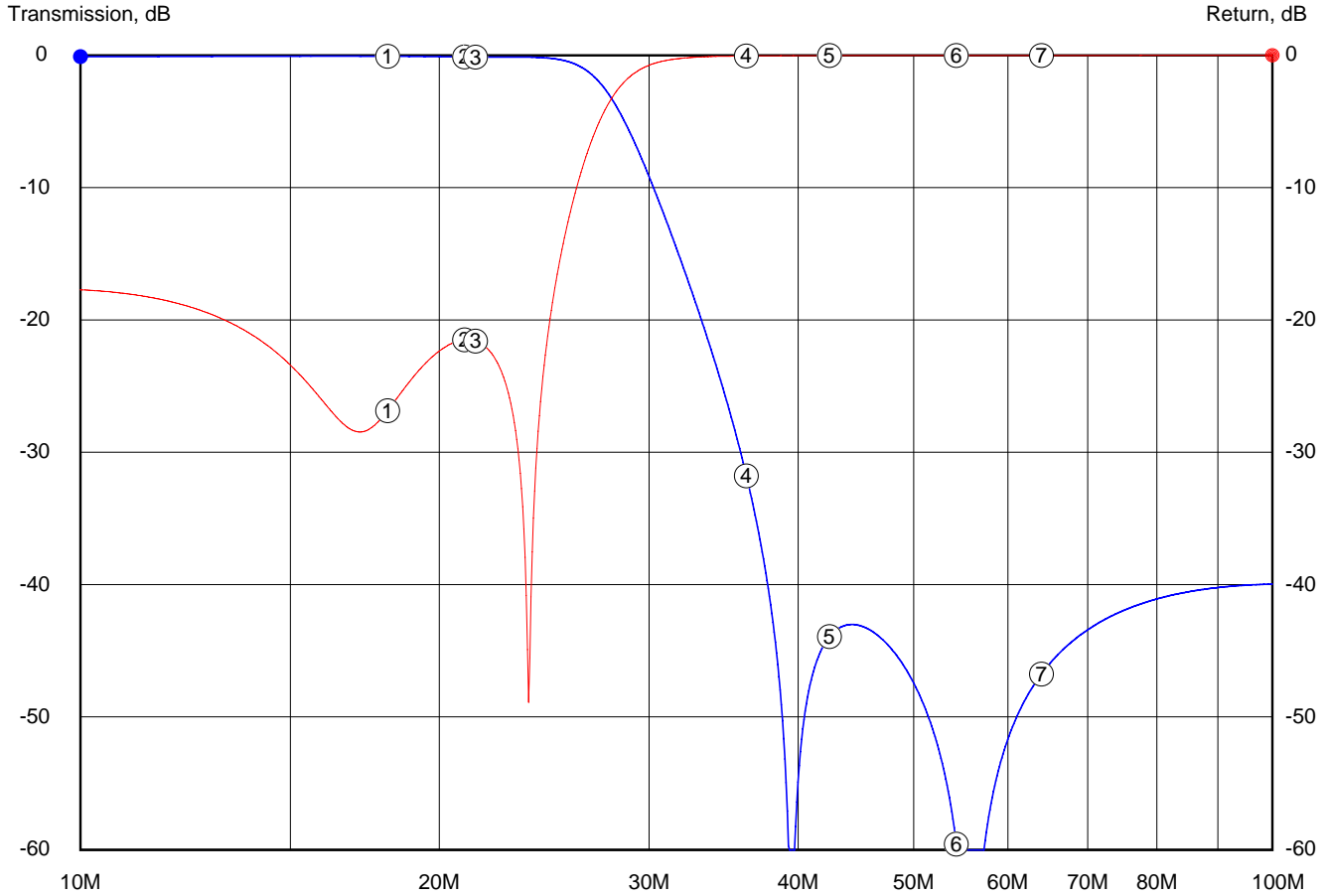
Bandwidth: 24M Family: Cauer Passband ripple: 0.04581

Stopband freq: 36M Stopband depth: 40

C:\Program Files\Elsie\ALEX-B\TX LPF Filters\TX_17-15M.LCT

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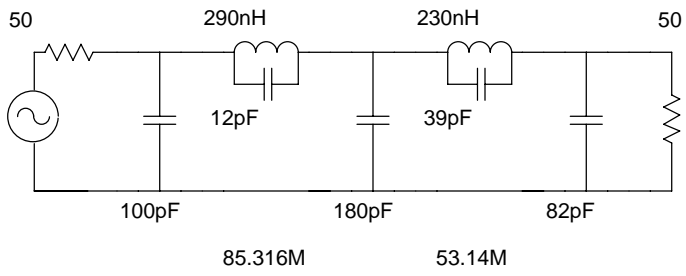
TX LPF 17 - 15 M



Details of markers:

Frequency:	Trans.:	Angle:	Return:	Delay:	VSWR:	Zin:	Zangle:	Real:	Imaginary:
1 18.1M	-0.07377	-121.06	-26.827	24.24n	1.0955	50.15	5.2149	49.942	-4.5582
2 21M	-0.12075	-148.55	-21.483	28.84n	1.1841	51.568	9.4758	50.864	-8.4897
3 21.45M	-0.12561	-153.32	-21.575	29.92n	1.182	51.16	9.4464	50.466	-8.3966
4 36.2M	-31.761	10.563	-0.05088	11.57n	341.43	52.344	89.664	0.30694	-52.343
5 42.5M	-43.89	165.15	-0.02412	4.992n	720.28	36.436	89.833	0.10628	-36.436
6 54.3M	-59.556	151.2	-0.01095	-6.788n	>1000	24.677	89.909	0.03918	-24.677
7 64M	-46.722	-45.368	-0.00726	1.883n	>1000	19.868	89.93	0.02418	-19.868

TX LPF 12-10M



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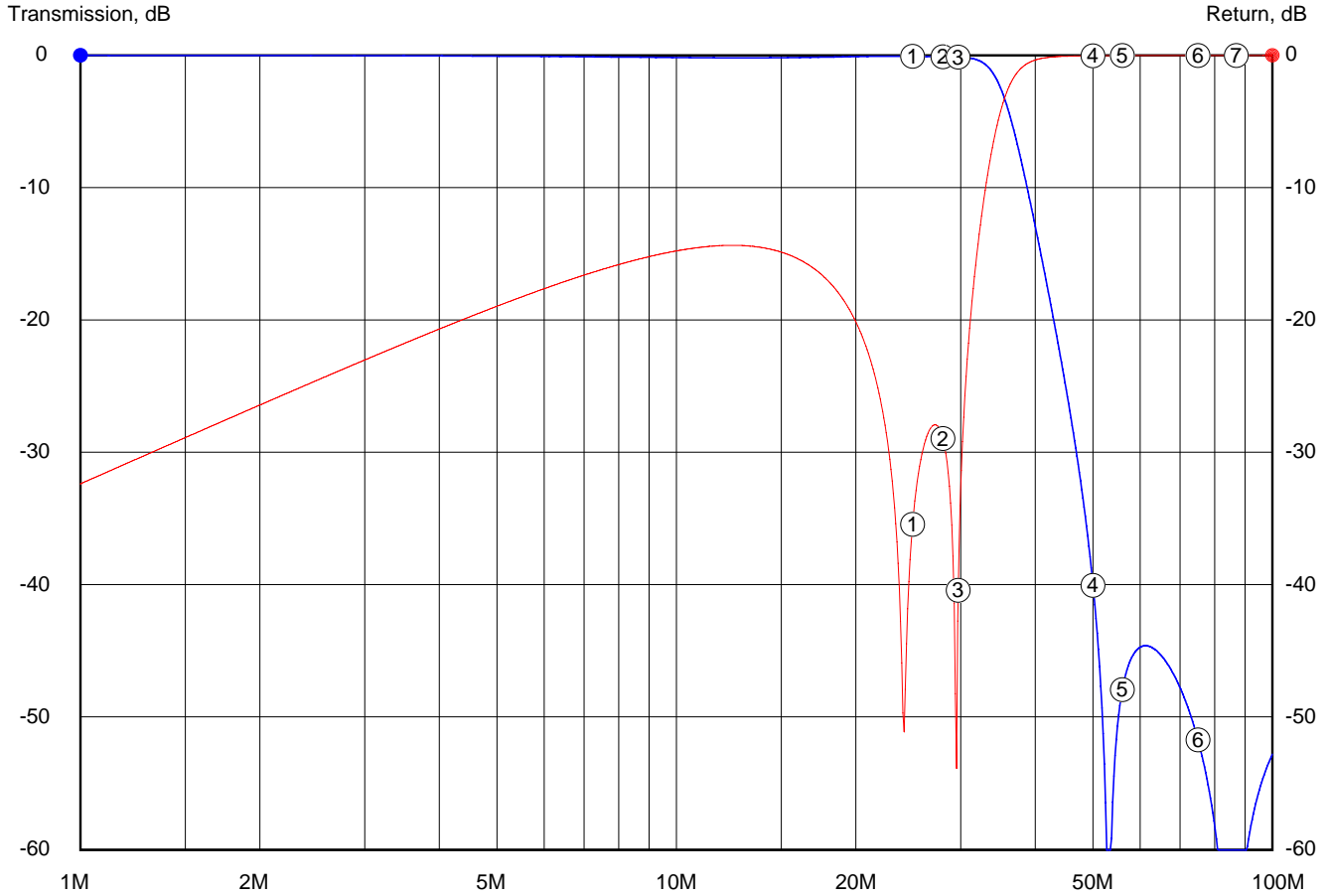
Bandwidth: 32M Family: Cauer Passband ripple: 0.08369

Stopband freq: 50M Stopband depth: 45

C:\Program Files\Elsie\ALEX-B\TX LPF Filters\TX_12-10M.LCT

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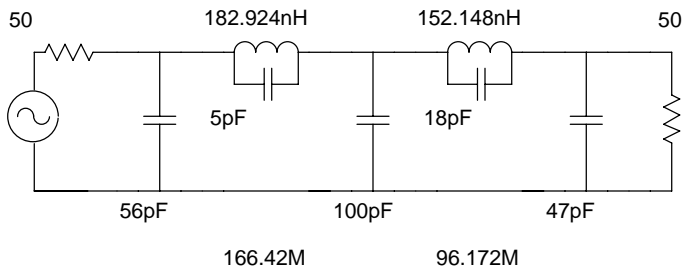
TX LPF 12-10M



Details of markers:

Frequency:	Trans.:	Angle:	Return:	Delay:	VSWR:	Zin:	Zangle:	Real:	Imaginary:
1 24.9M	-0.08171	-142.48	-35.415	21.52n	1.0345	51.225	1.3601	51.211	-1.2159
2 28M	-0.11252	-168.53	-28.94	25.46n	1.0741	50.735	4.006	50.611	-3.5444
3 29.7M	-0.13286	174.68	-40.399	29.43n	1.0193	49.93	-1.0915	49.921	0.9511
4 50M	-40.025	-5.8508	-0.03516	4.983n	494.07	43.25	89.766	0.17692	-43.249
5 56M	-47.897	156.05	-0.02229	1.649n	779.38	34.386	89.843	0.0945	-34.386
6 75M	-51.688	138.09	-0.00912	1.694n	>1000	22.011	89.918	0.03133	-22.011
7 87M	-69.234	-58.437	-0.00631	-16.2n	>1000	18.21	89.935	0.02056	-18.21

TX LPF 6M - 5th Order Cauer

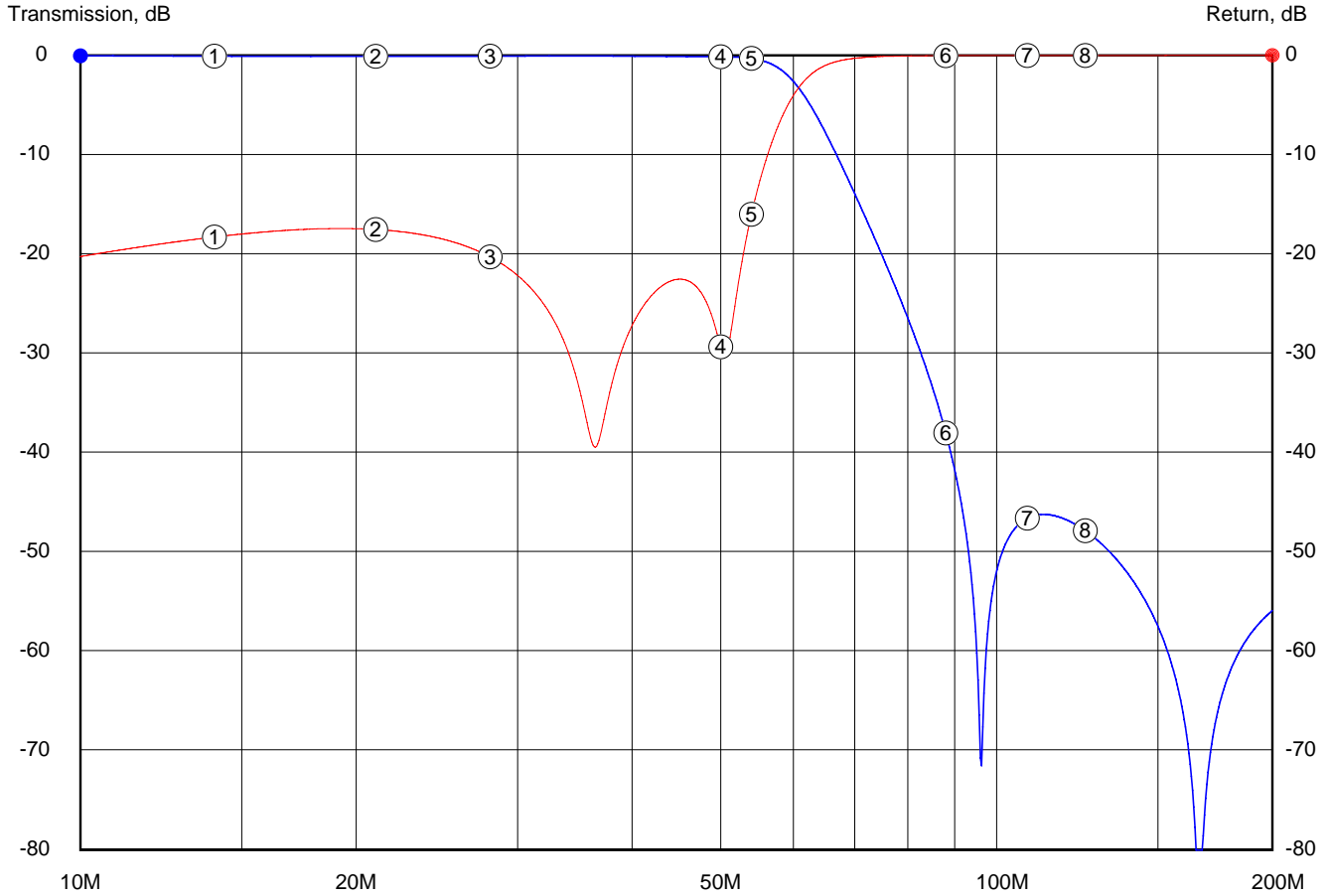


Elsie

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Bandwidth: 55M Family: Manual entry
C:\Program Files\Elsie\ALEX-BTX LPF Filters\TX_6M.LCT
7/23/2007 9:37:44 PM - Elsie 2.12 - www.tonnesoftware.com

TX LPF 6M - 5th Order Cauer



Details of markers:

Frequency:	Trans.:	Angle:	Return:	Delay:	VSWR:	Zin:	Zangle:	Real:	Imaginary:
1 14M	-0.08286	-42.575	-18.29	8.528n	1.2773	42.537	10.424	41.835	-7.696
2 21M	-0.10733	-64.444	-17.535	8.883n	1.3063	39.428	6.9296	39.14	-4.7569
3 28M	-0.08549	-87.694	-20.299	9.63n	1.2139	41.225	1.0314	41.218	-0.74204
4 50M	-0.14153	177.55	-29.351	16.32n	1.0706	47.002	1.6441	46.982	-1.3485
5 54M	-0.31035	150.88	-16.002	20.88n	1.3766	54.141	-17.441	51.652	16.227
6 88M	-38.018	-5.8241	-0.03592	3.181n	483.56	43.97	89.761	0.18336	-43.97
7 108M	-46.606	150.96	-0.01706	1.657n	>1000	30.297	89.873	0.06714	-30.297
8 125M	-47.86	141.89	-0.01114	1.261n	>1000	24.489	89.907	0.03975	-24.489