Installation notes:

Second Order Bandpass frequency module modification

Many popular frequency modules are available pre-assembled from a/d/s/. Check the owners manual that came with your crossover, or contact a/d/s/ customer service department for up-to-date information on currently available modules.

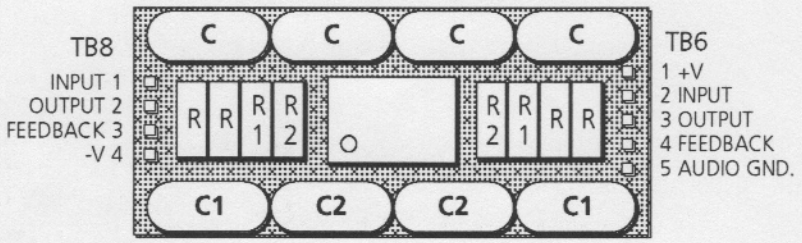
If the desired frequency is not available, you may modify the standard modules by replacing the resistors and or capacitors with components of the values listed in the table below.

Use metal-film resistors with 1% tolerance and Polypropylene capacitors with 2% tolerance for high accuracy and lowest noise.

Blank modules, connector pins, and low-noise op-amp's are available through a/d/s/ for those of you who wish to build your own modules from scratch or for special applications.

Contact a/d/s/ customer service at 800-522-4434 for more information.

2nd ORDER BANDPASS MODULE AS VIEWED FROM *COMPONENT* SIDE



Circuit schematic.

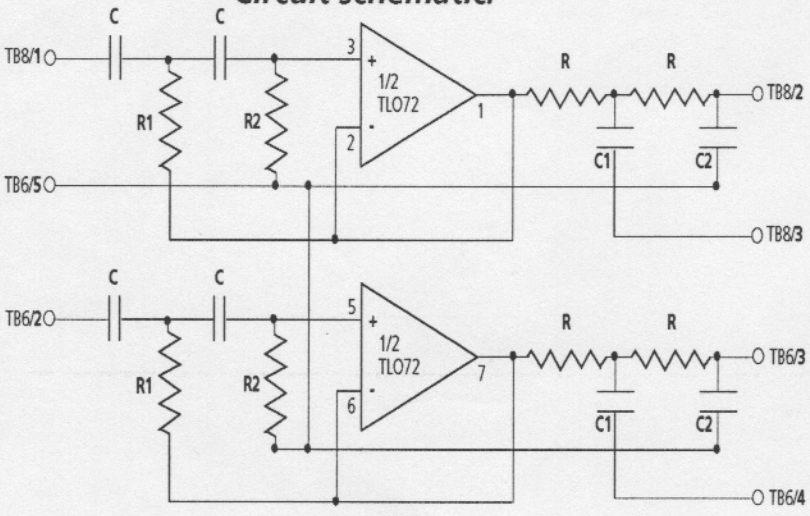


Table of component values

using standard 1% tolerance metal-film resistors.

High-pass Frequency	**C** in µF	**R1** in kΩ	**R2** in kΩ
65	.1	17.4	34.8
85	.1	13.3	26.7
100	.1	11.3	22.6
130	.1	8.66	17.4
150	.1	7.50	15.0
170	.1	6.65	13.3
200	.1	5.62	11.3
220	.1	5.11	10.2
270	.1	4.22	8.45
340	.1	3.32	6.65
500	.1	2.26	4.53

Low-pass Frequency	**C1** in µF	**C2** in µF	**R** in kΩ
130	.1	.047	18.2
170	.1	.047	13.7
200	.1	.047	11.8
220	.1	.047	10.7
270	.1	.047	8.66
1.0K	.01	.0047	23.2
2.0K	.01	.0047	11.7
2.5K	.01	.0047	9.31
3.0K	.01	.0047	7.87
4.0K	.01	.0047	5.76
5.0K	.01	.0047	4.62

a/d/s/ all music.

a/d/s/ *Installation notes:*

Fourth Order Low-Pass frequency module modification

FOURTH ORDER LOW PASS MODULE AS VIEWED FROM *COMPONENT* SIDE

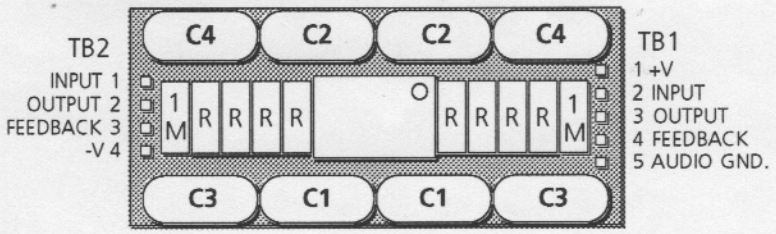


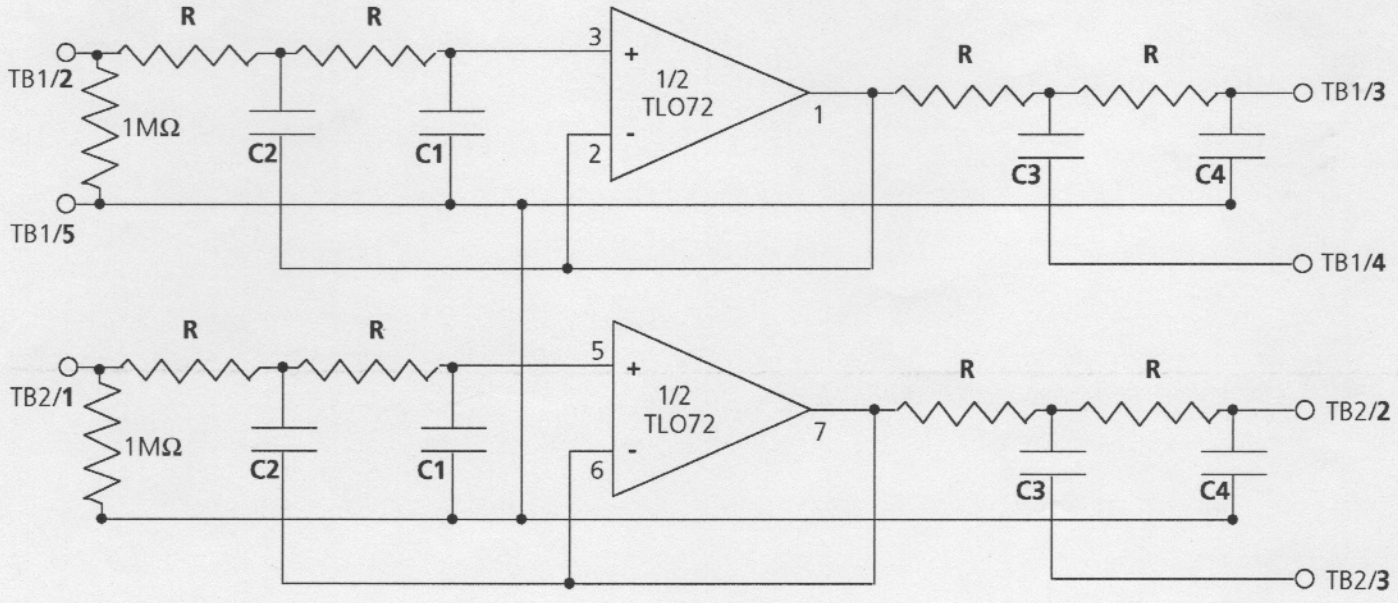
Table of component values *using standard 1% tolerance metal-film resistors.*

Frequency	**C1,C4** in µF	**C2,C3** in µF	**R1** in kΩ
65	.047	.1	35.7
85	.047	.1	27.4
100	.047	.1	23.2
130	.047	.1	17.8
150	.047	.1	15.4
170	.047	.1	13.7
200	.047	.1	11.5
220	.047	.1	10.7
270	.047	.1	8.66
340	.047	.1	6.81
500	.047	.1	4.64

Frequency	**C1,C4** in µF	**C2,C3** in µF	**R** in kΩ
650	.01	.022	17.4
850	.01	.022	13.7
1K	.01	.022	11.5
1.3K	.01	.022	8.87
1.5K	.01	.022	7.68
2.0K	.01	.022	5.76
2.5K	.01	.022	4.64
3.0K	.01	.022	3.83
4.0K	.01	.022	2.87
5.0K	.01	.022	2.32
7.5K	.0022	.0047	6.19

All capacitors should be film type with 5% or better tolerance. Polypropylene or metallized polypropylene types are preferred.

Circuit schematic. *(power connections not shown)*



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a/d/s/ *Installation notes:*
Fourth Order High-Pass frequency module modification

FOURTH ORDER HIGH PASS MODULE AS VIEWED FROM *COMPONENT* SIDE

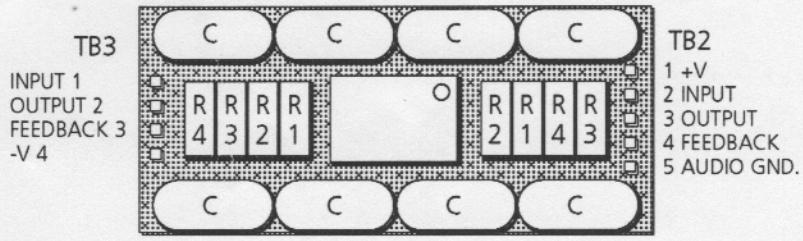


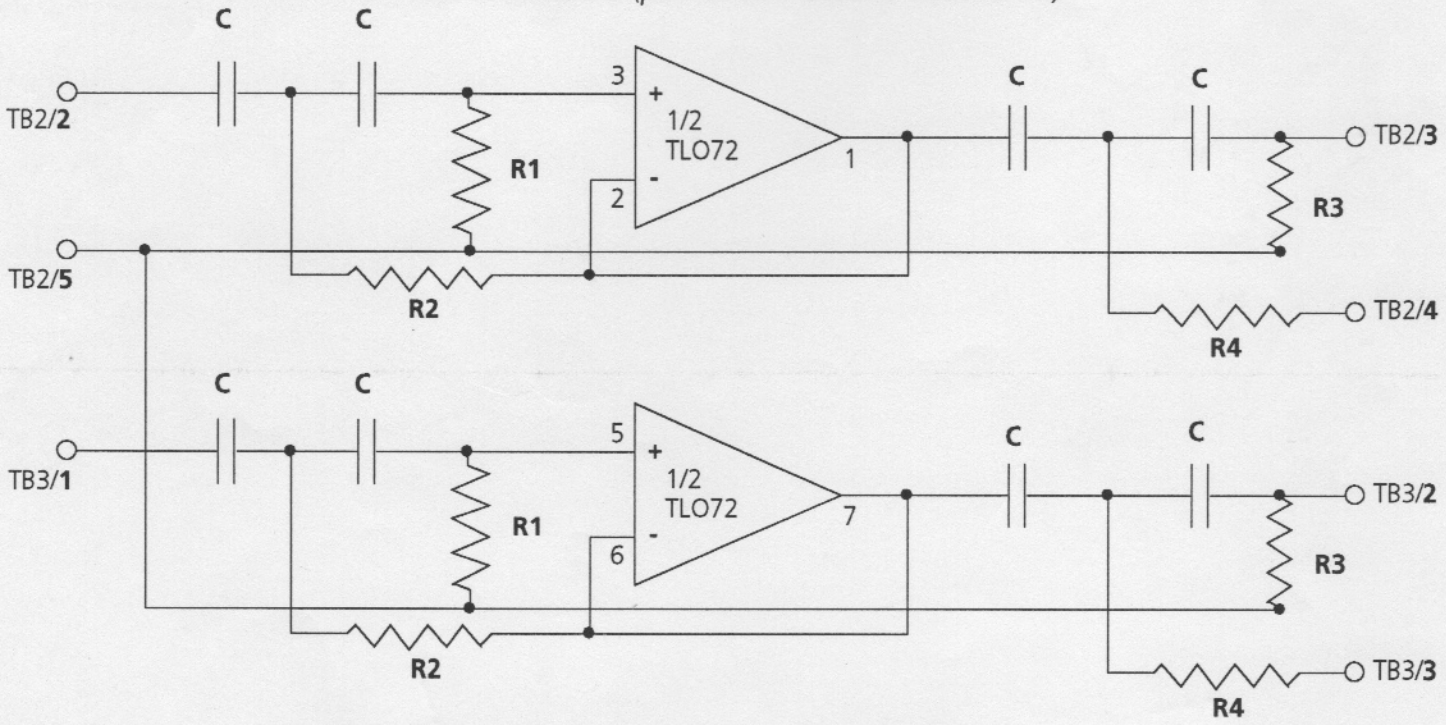
Table of component values *using standard 1% tolerance metal-film resistors.*

Frequency	**C** in µF	**R1,R3** in kΩ	**R2,R4** in kΩ
65	.1	34.8	17.4
85	.1	26.7	13.3
100	.1	22.6	11.3
130	.1	17.4	8.66
150	.1	15.0	7.50
170	.1	13.3	6.65
200	.1	11.3	5.62
220	.1	10.2	5.11
270	.1	8.45	4.22
340	.1	6.65	3.32
500	.1	4.53	2.26

Frequency	**C** in µF	**R1,R3** in kΩ	**R2,R4** in kΩ
650	.022	15.8	7.90
850	.022	12.1	6.04
1K	.022	10.3	5.11
1.3K	.022	7.87	3.92
1.5K	.022	6.81	3.40
2.0K	.01	11.3	5.62
2.5K	.01	9.09	4.53
3.0K	.01	7.50	3.74
4.0K	.01	5.62	2.80
5.0K	.01	4.53	2.26
7.5K	.0047	6.49	3.24

All capacitors should be film type with 5% or better tolerance. Polypropylene or metallized polypropylene types are preferred.

Circuit schematic. *(power connections not shown)*



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Installation notes:
Second Order Low-Pass frequency module modification

Many popular frequency modules are available pre-assembled from a/d/s/. Check the owners manual that came with your crossover, or contact a/d/s/ customer service department for up-to-date information on currently available modules.

If the desired frequency is not available, you may modify the standard modules by replacing the resistors and or capacitors with components of the values listed in the table below.

Use metal-film resistors with 1% tolerance and Polypropylene capacitors with 2% tolerance for high accuracy and lowest noise.

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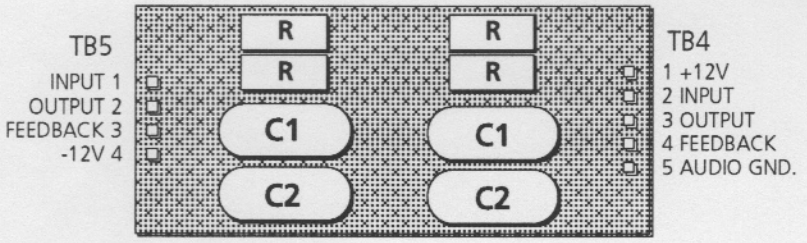
SECOND ORDER LOW PASS MODULE AS VIEWED FROM *COMPONENT* SIDE



Circuit schematic.

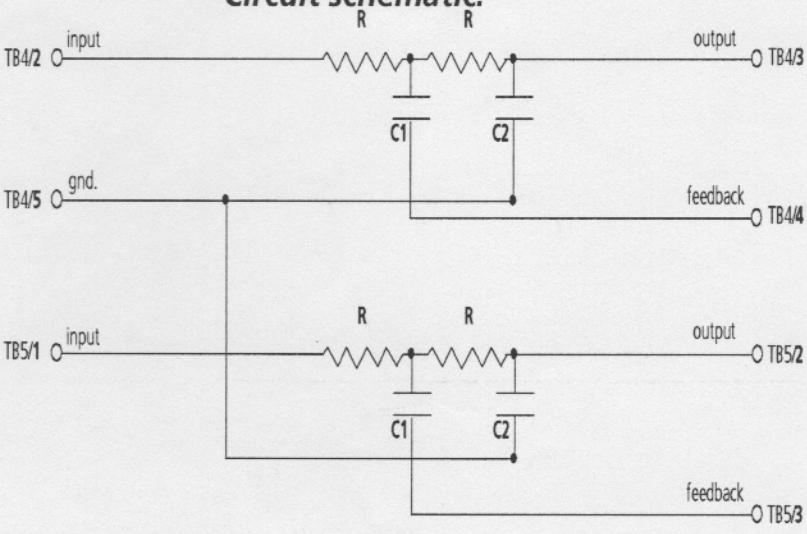


Table of component values *using standard 1% tolerance metal-film resistors.*

Frequency	**C1** in µF	**C2** in µF	**R1** in kΩ
65	.68	.33	5.11
85	.68	.33	3.92
100	.68	.33	3.40
130	.68	.33	2.61
150	.68	.33	2.26
170	.68	.33	1.96
200	.1	.047	11.5
220	.1	.047	10.7
270	.1	.047	8.66
340	.1	.047	6.81
500	.1	.047	4.64
650	.068	.033	5.11
850	.068	.033	3.92
1K	.068	.033	3.40
1.3K	.068	.033	2.61
1.5K	.068	.033	2.26
2.0K	.01	.0047	11.5
2.5K	.01	.0047	9.31
3.0K	.01	.0047	7.68
4.0K	.01	.0047	5.90
5.0K	.01	.0047	4.64
7.5K	.0047	.0022	6.19

a/d/s/ all music.

Installation notes:

Second Order High-Pass frequency module modification

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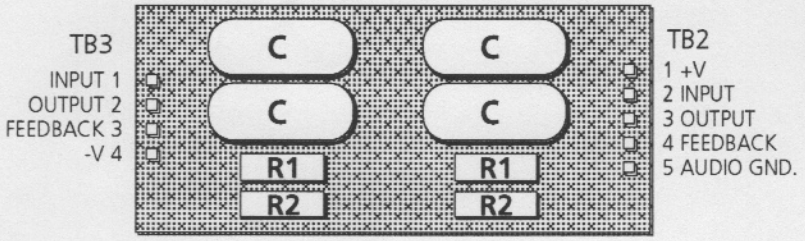
SECOND ORDER HIGH PASS MODULE AS VIEWED FROM *COMPONENT* SIDE



Circuit schematic.

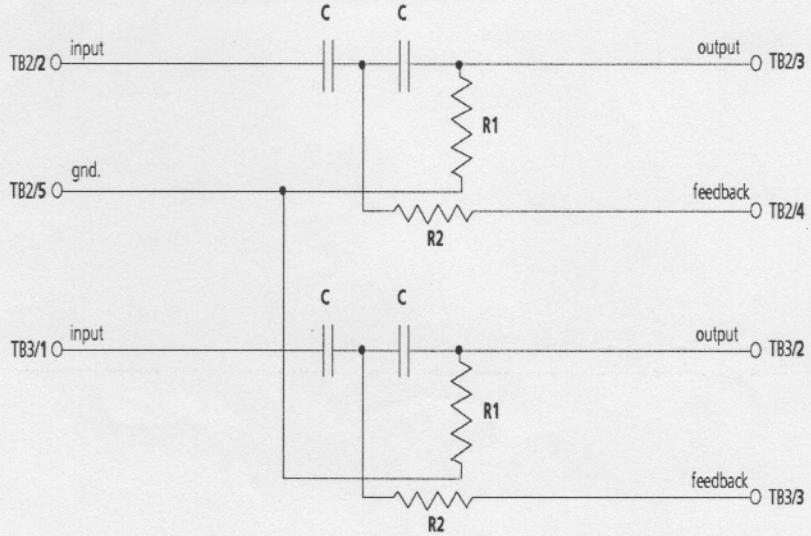


Table of component values

using standard 1% tolerance metal-film resistors.

Frequency	**C** in µF	**R1** in kΩ	**R2** in kΩ
65	.22	15.8	7.87
85	.22	12.1	6.04
100	.22	10.2	5.10
130	.22	7.87	3.92
150	.22	6.81	3.48
170	.22	6.04	3.01
200	.22	5.11	2.55
220	.1	10.2	5.11
270	.1	8.45	4.22
340	.1	6.65	3.32
500	.1	4.53	2.26
650	.047	7.32	3.66
850	.047	5.62	2.81
1K	.047	4.75	2.37
1.3K	.047	3.65	1.82
1.5K	.01	15.0	7.50
2.0K	.01	11.3	5.62
2.5K	.01	9.09	4.53
3.0K	.01	7.50	3.74
4.0K	.01	5.62	2.80
5.0K	.01	4.53	2.26
7.5K	.0047	6.49	3.24

a/d/s/ all music.