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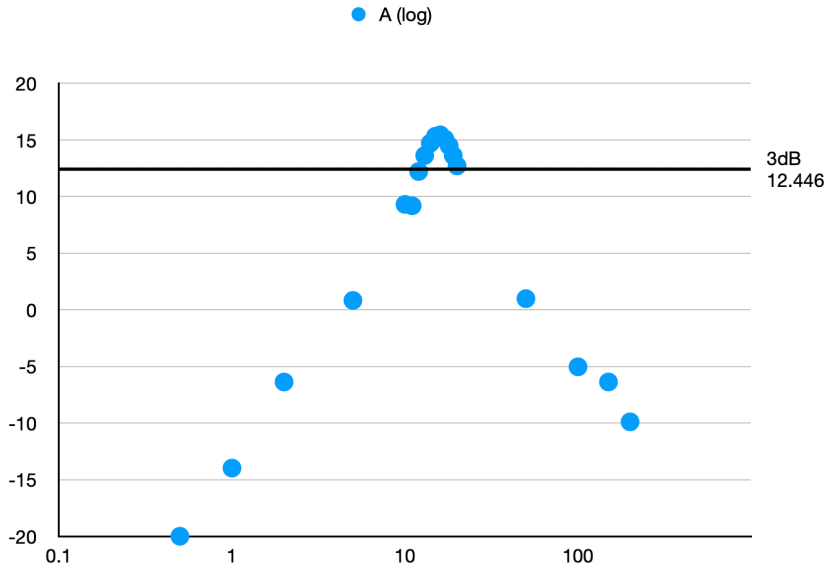
電子學實驗#3 - 結報

Feedback Circuit Active Filter

Feedback Circuit Active Filter

Frequency (kHz)	V_o	A	A (log)	A_max (log)
0.5	0.1	0.1	-20	15.4464341344584
1	0.2	0.2	-13.9794000867204	
2	0.48	0.48	-6.37517525248826	
5	1.1	1.1	0.827853703164502	
10	2.92	2.92	9.30765702896837	
11	2.88	2.88	9.18784975518462	
12	4.08	4.08	12.2132032617976	
13	4.8	4.8	13.6248247475117	
14	5.44	5.44	14.7119779939636	
15	5.84	5.84	15.328256942248	
16	5.92	5.92	15.4464341344584	BW
17	5.68	5.68	15.0869667142204	
18	5.3	5.3	14.4855173920158	
19	4.8	4.8	13.6248247475117	
20	4.32	4.32	12.7096749362982	
50	1.12	1.12	0.984360453403633	
100	0.56	0.56	-5.03623945987599	
150	0.48	0.48	-6.37517525248826	
200	0.32	0.32	-9.89700043360188	



$f_{L-3dB} = 12kHz,\ f_{H-3dB} = 20kHz$

Conclusion:

This experiment is much more complex than before, so I used the TL084 component to implement the circuit this time. Since the pins are closer together, it's easy to make wiring mistakes. Perhaps next time I can try using the 741 Op. Amp, and maybe the resulting circuit won't be so crowded.