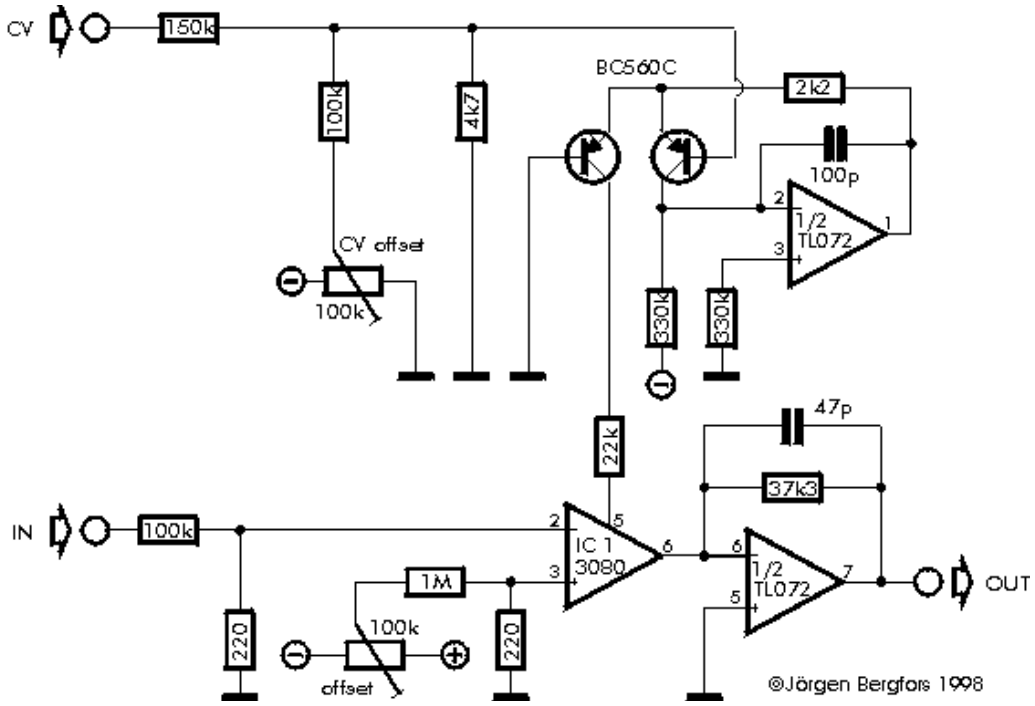
BERGFOTRON

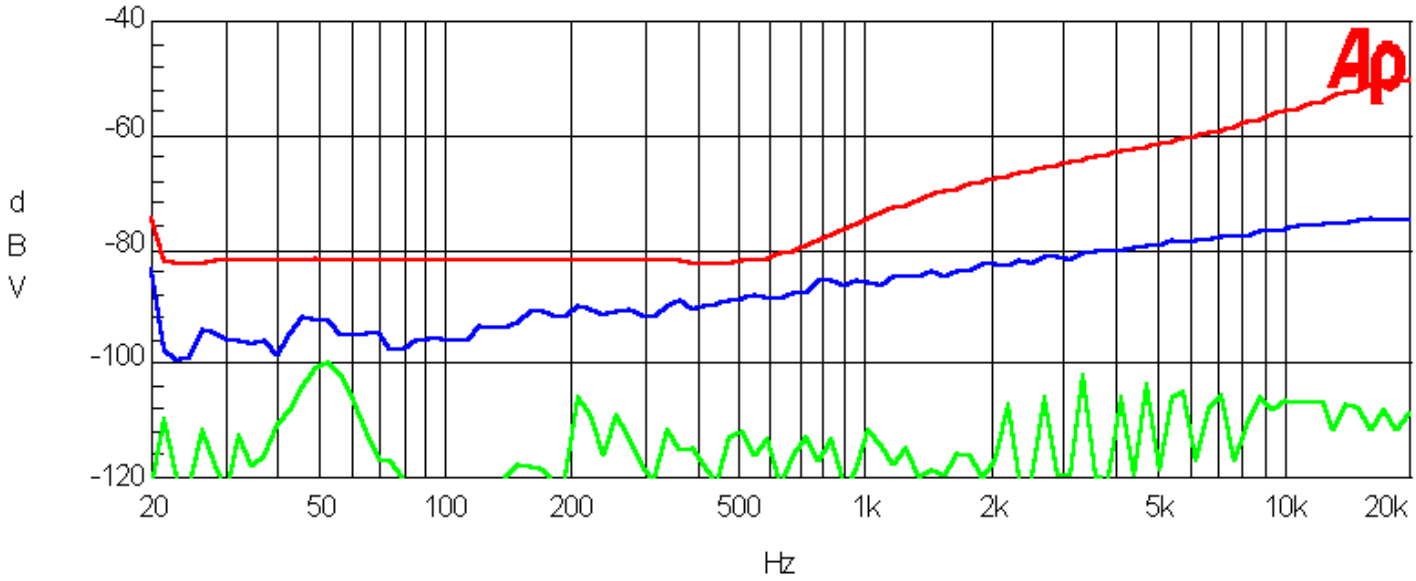
CA3080 VCA 2



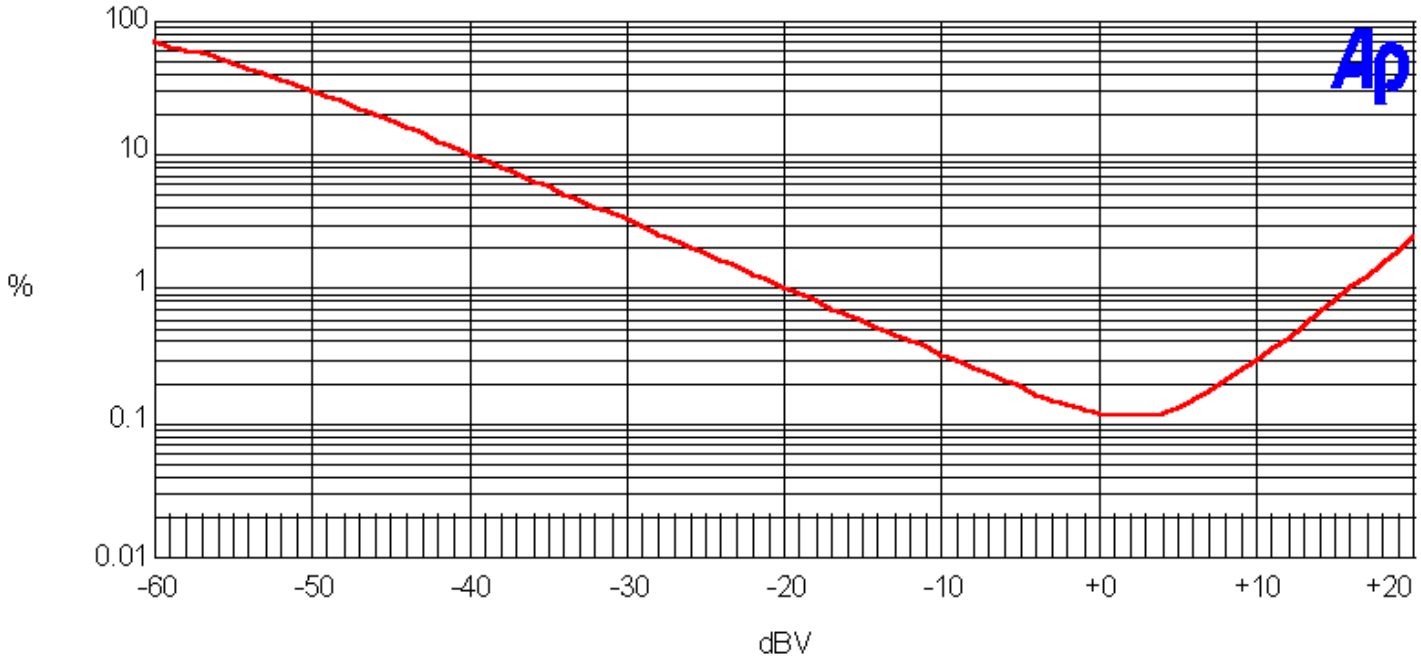
This is the same circuit as the CA3080 VCA 1, except for the output stage. The chip is also driven a little harder. The load resistor is connected in the feedback loop of an operational amplifier. Here a 15 year old RCA chip is used. The performance of this circuit is slightly better than the CA3080 VCA 1. This probably has more to do with the increased I_{abc} than with the different output configuration. This circuit actually isn't much noisier than the SSM2024, but the signal bleedthrough is around 10 dB higher.

Noise & signal attenuation

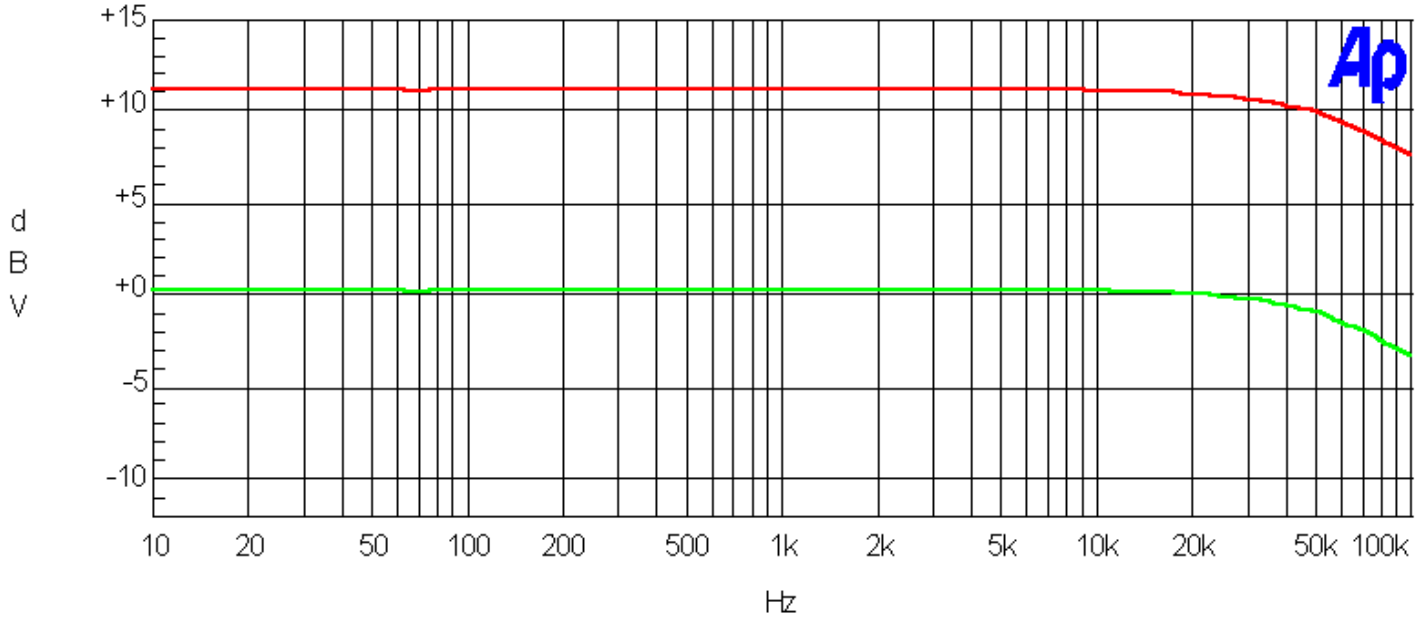
Red = signal bleedthtrough at 0V CV. Blue = 10V CV, no signal. Green = 0V CV, no signal.



Distortion (THD+N) vs. input level



Frequency response



Test results

Dynamic range	**10 V CV, no signal**	**81 dBr A**
	0 V CV, no signal	**110 dBr A**
	0 V CV, 1kHz 10 V p-p in	**85 dBr A**
	0 V CV, 2 kHz 10 V p-pin	**77 dBr A**
	0 V CV, 10 kHz 10 V p-pin	**67 dBr A**
	Headroom (over 10V p-p)	**5 dB**
CV bleedthrough	**with careful trimming**	**2 mV**

Summary

This was expected to be a poor performer but turned out to be quite respectable. It is a little noisier but the difference is surprisingly small. This circuit seems to be less noisy than the other CA3080-based ones.

- Very low CV bleedthrough

- High signal bleedthrough at higher frequencies