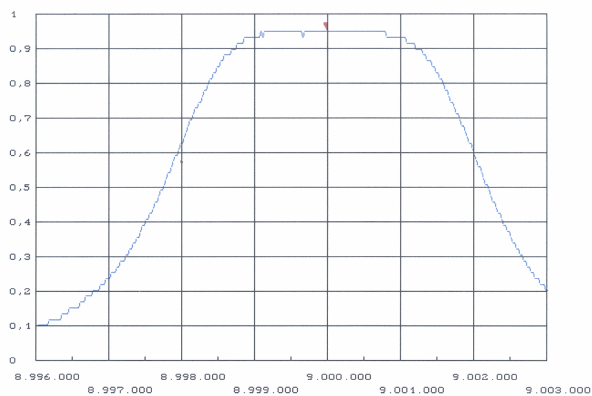


More remarks to the IF amp.

The changes to the noise-filter described previously showed not to be absolutely OK. The noise that was present in USB was (still) different from the noise in LSB. Meaning that the filter was not symmetrical. With the experience from fooling around with the roofing filter I thought that cancelling C_0 with the chokes (68uH) would solve the problem. But the IF-amplifier was self-oscillating wildly with these chokes in place. Building a filter on a piece of board and terminating that, as it should, showed excellent performance with the 68uH in parallel with the x-tals. So it was decided to move the filter outside the box containing the IF-amplifier. The x-tal filter was built into a small box (37x72x30) and the filter was terminated internal to 50 ohm. (A transformer at the input and resistive termination at the output). This way I could now optimize the filter outside the IF-amplifier. On the IF board similar terminations were done for proper matching of the x-tal filter. Now I have a noise-filter that has the passband width that I wanted and that are symmetrical with nearly no ripple. The noise I hear in position LSB is now the same in USB. I am loosing a little amplification doing the up and down transformations, but we have plenty of that anyway.

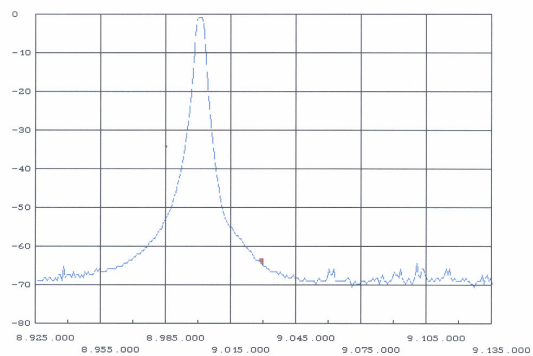
Noise filter response:

Durchgangsmessung 08-01-2004 20:52:55



Marker : 9,000,000 Hz
Maximum : 8,999,050 Hz 0,950
Minimum : 8,996,000 Hz 0,103
Fmin : 8,998,025 Hz
Fmax : 9,001,850 Hz
Bandbreite: 3,825 Hz (3 dB)

Durchgangsmessung 08-01-2004 20:52:55



Marker : 9,030,000 Hz
Maximum : 8,999,250 Hz -1 dB
Minimum : 9,009,750 Hz -71 dB
Fmin : 8,997,750 Hz
Fmax : 9,002,250 Hz
Bandbreite: 4,500 Hz (6 dB)