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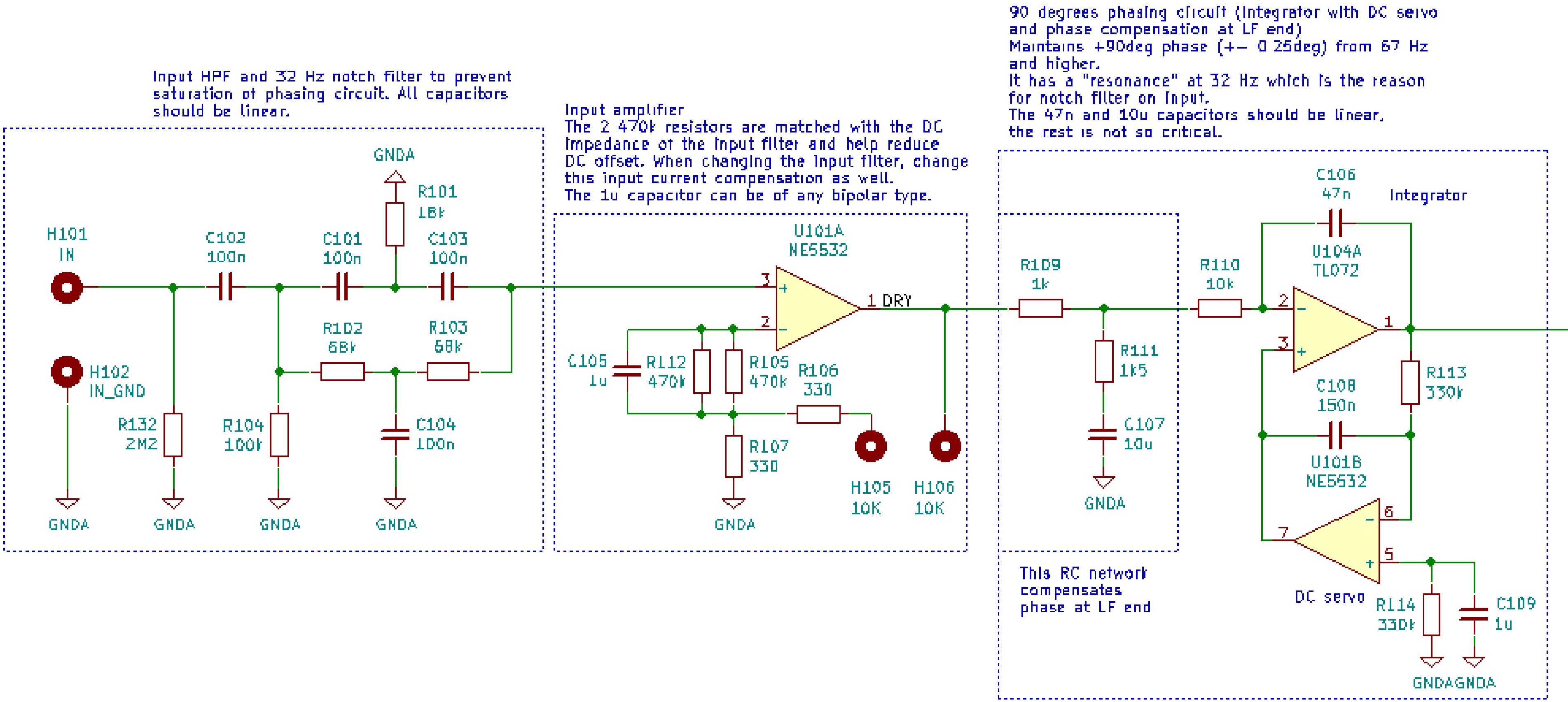
Subharmonic generator B2M34IAS

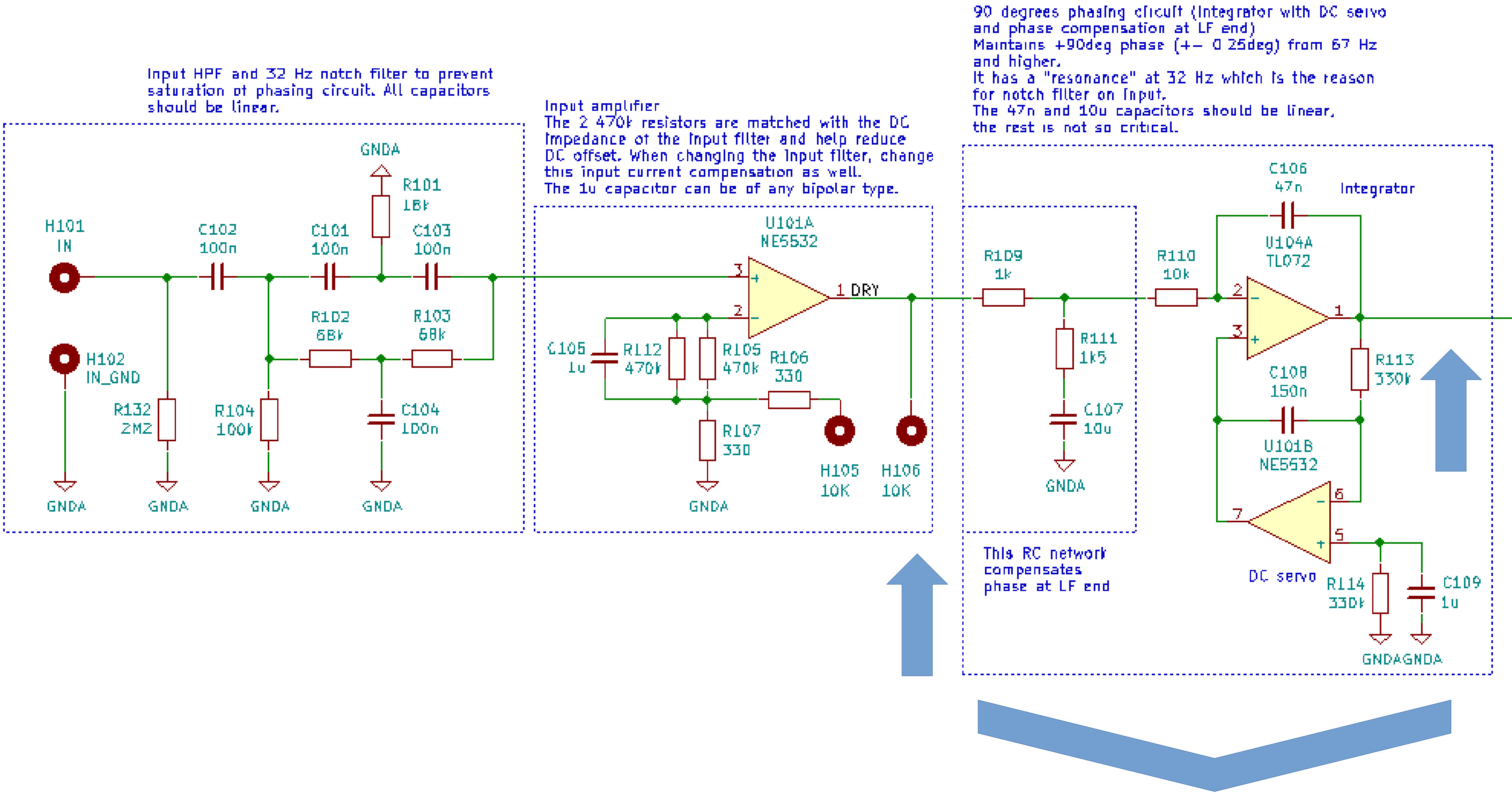
Petr Polášek

3.1.2018

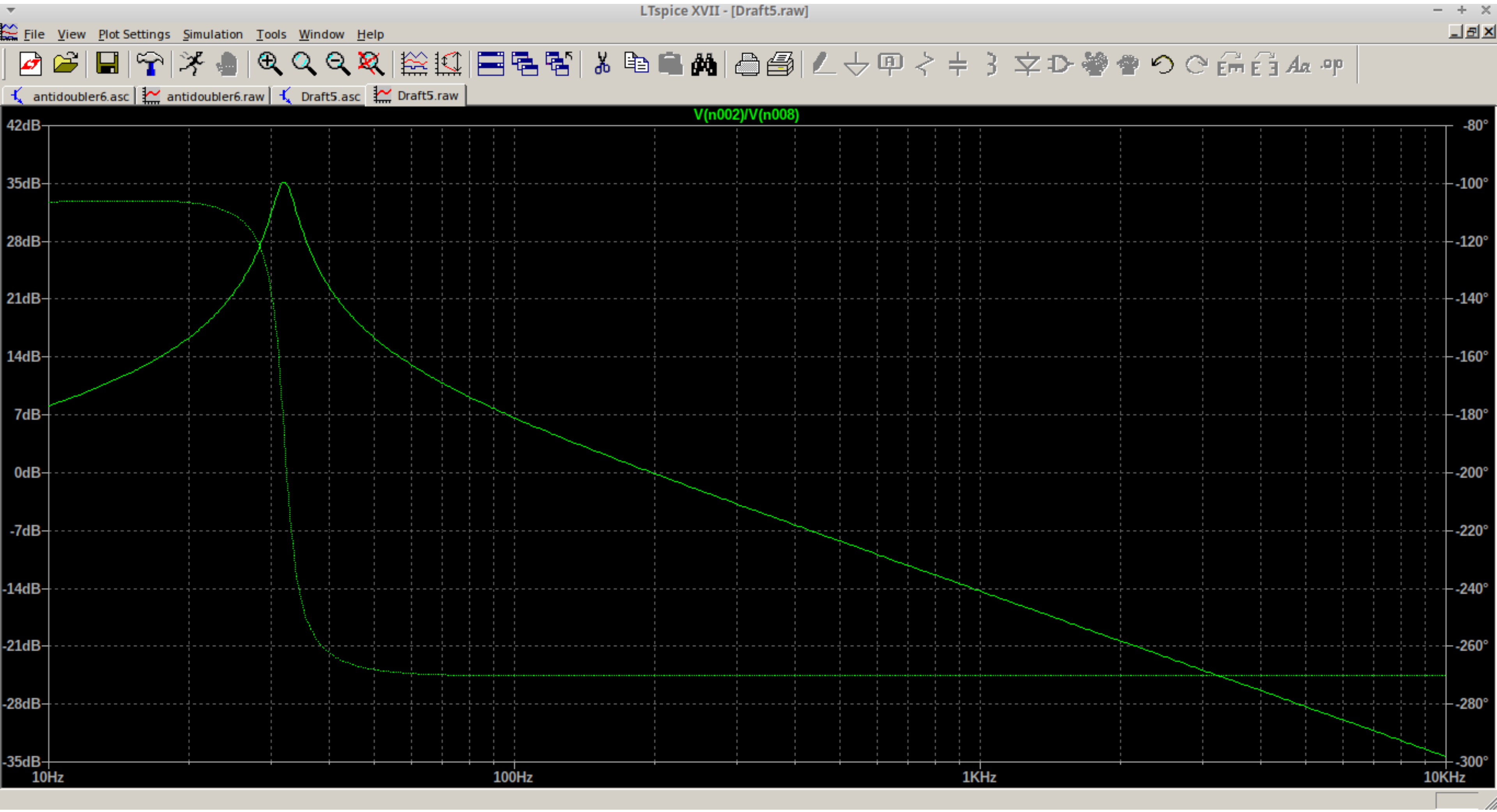
90° phasing circuit - schematic



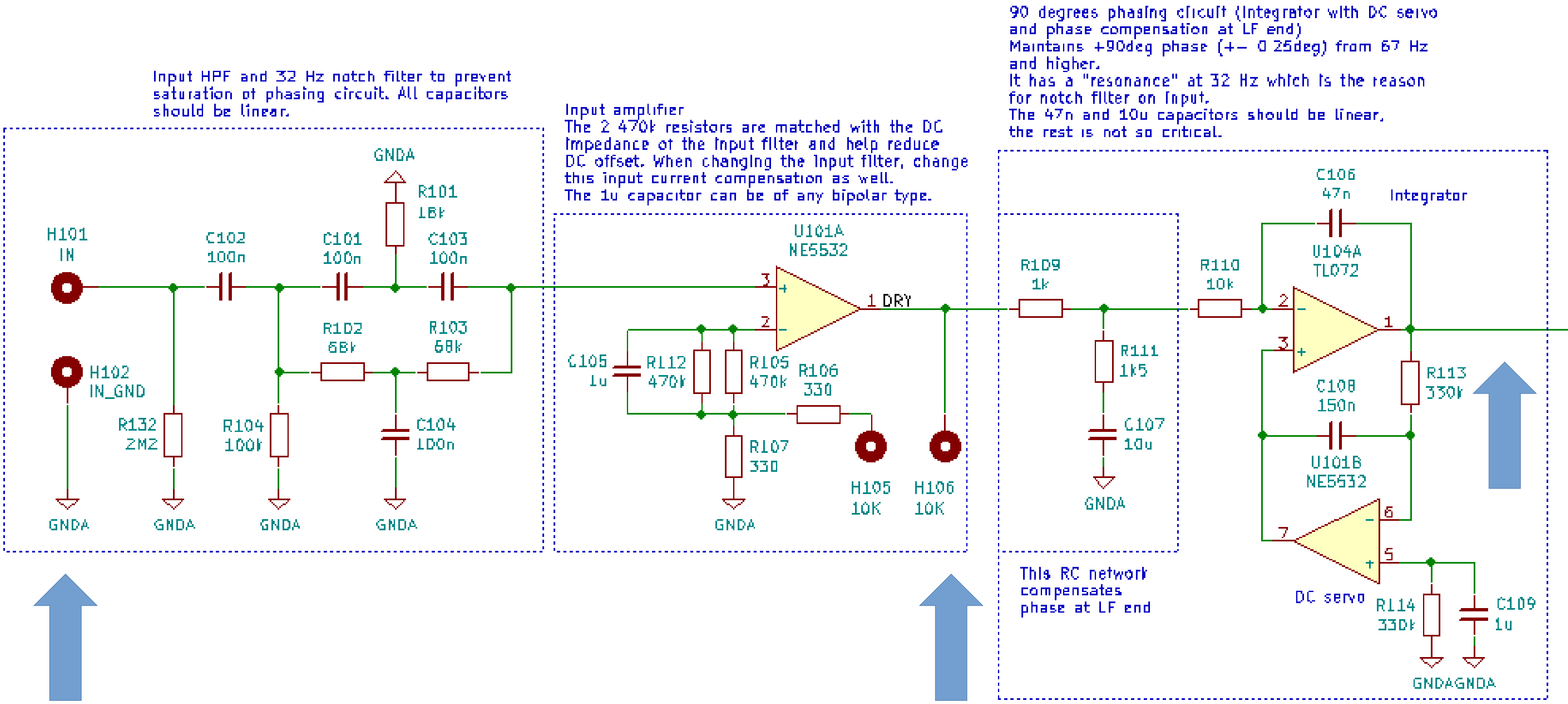
90° phasing circuit - schematic



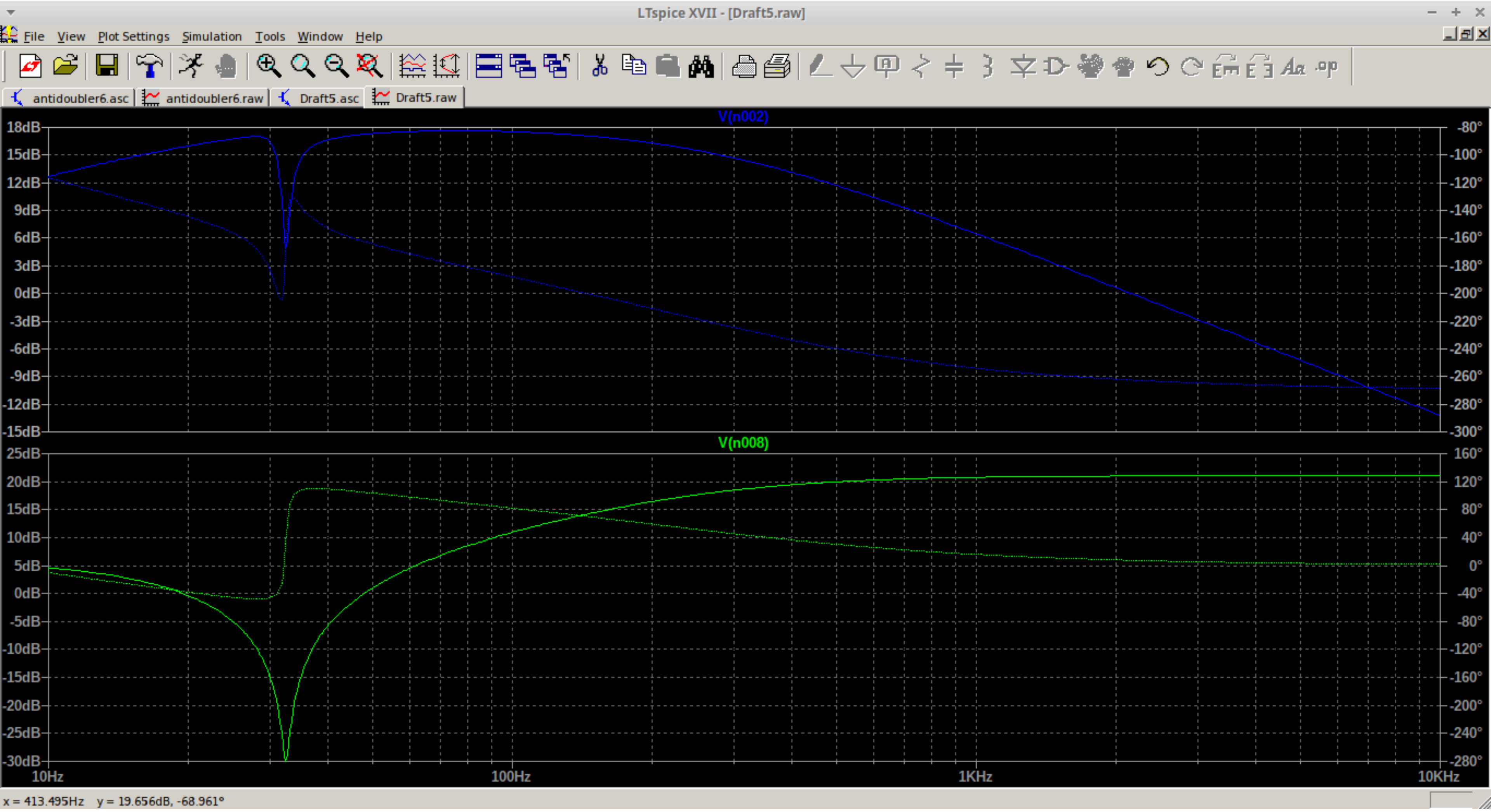
90° phasing circuit - characteristics



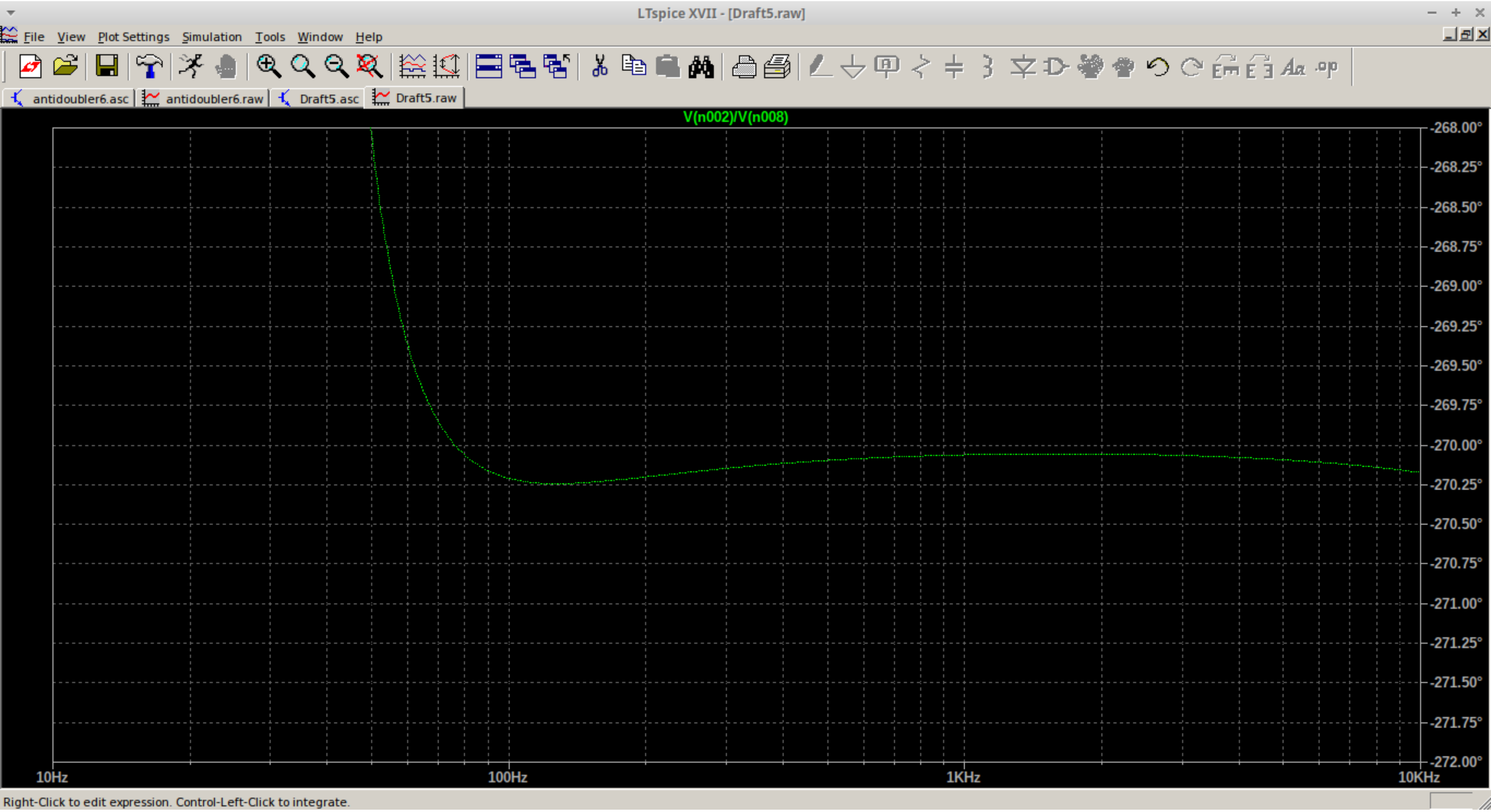
90° phasing circuit - schematic



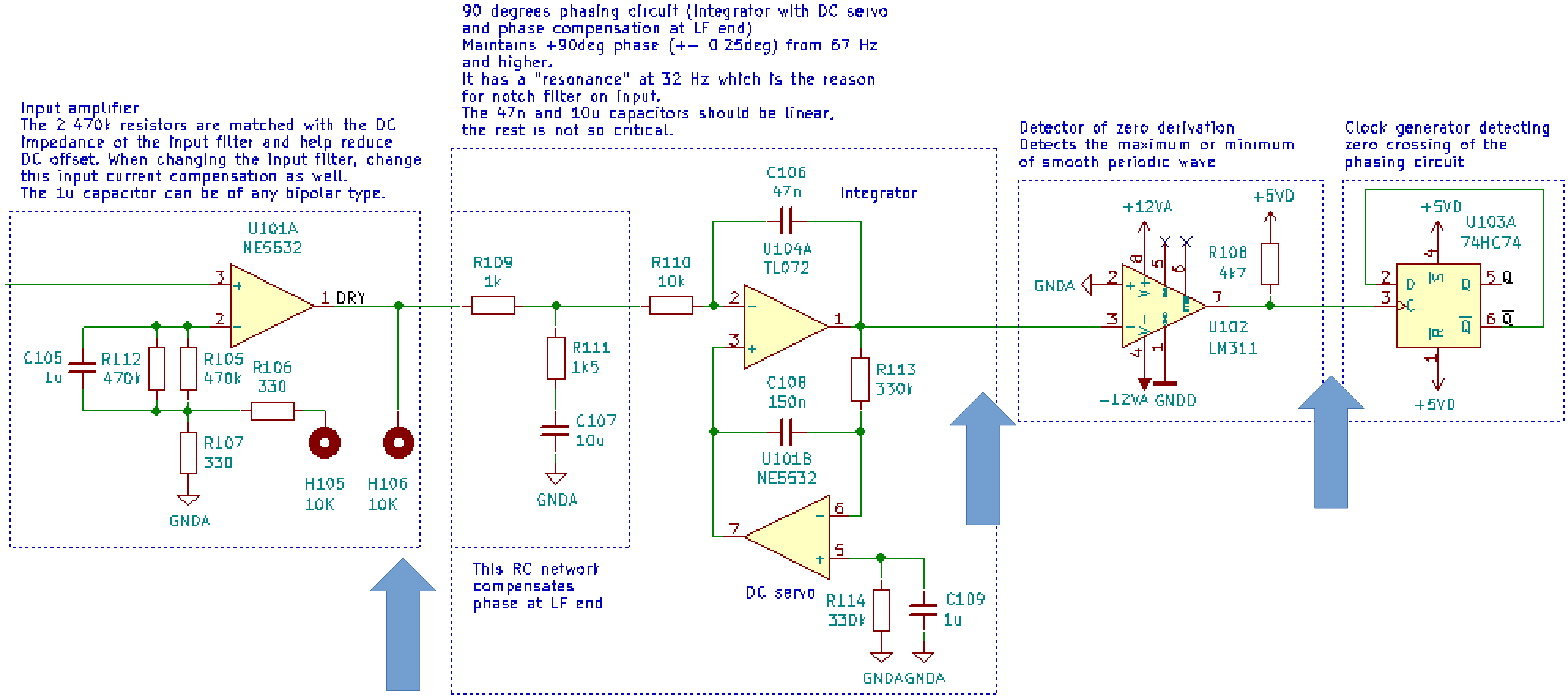
90° phasing circuit – notch filter



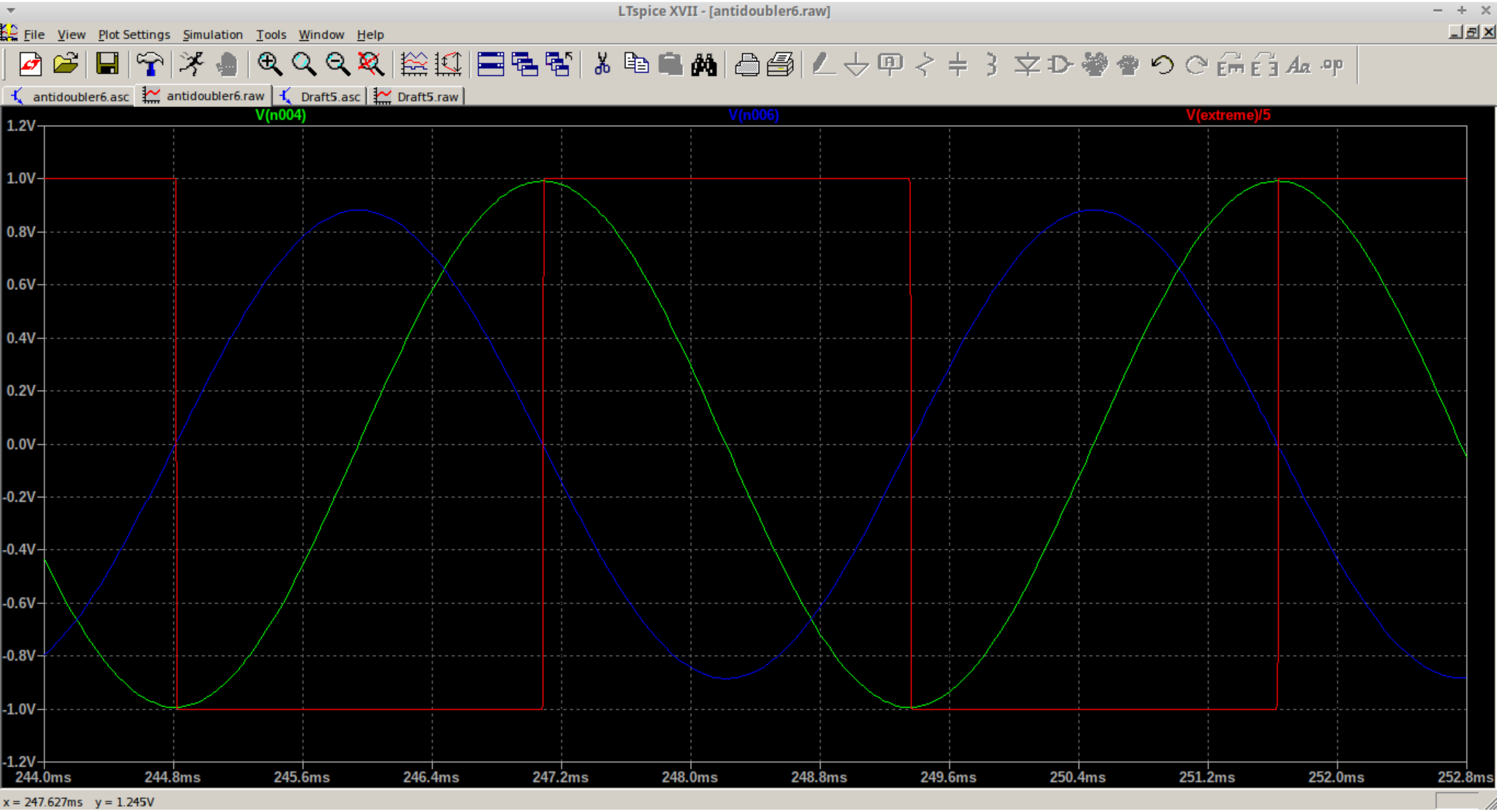
90° phasing circuit – phase accuracy



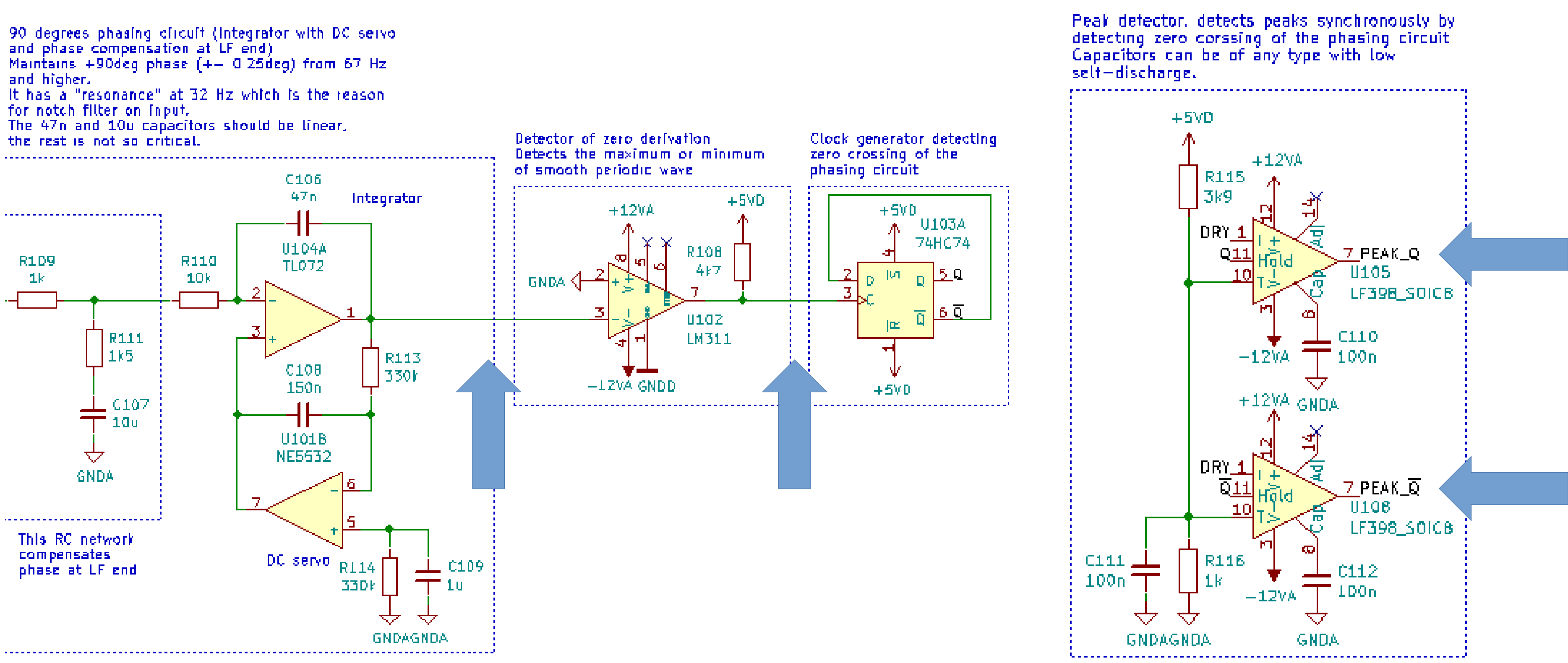
Extreme detector - schematic



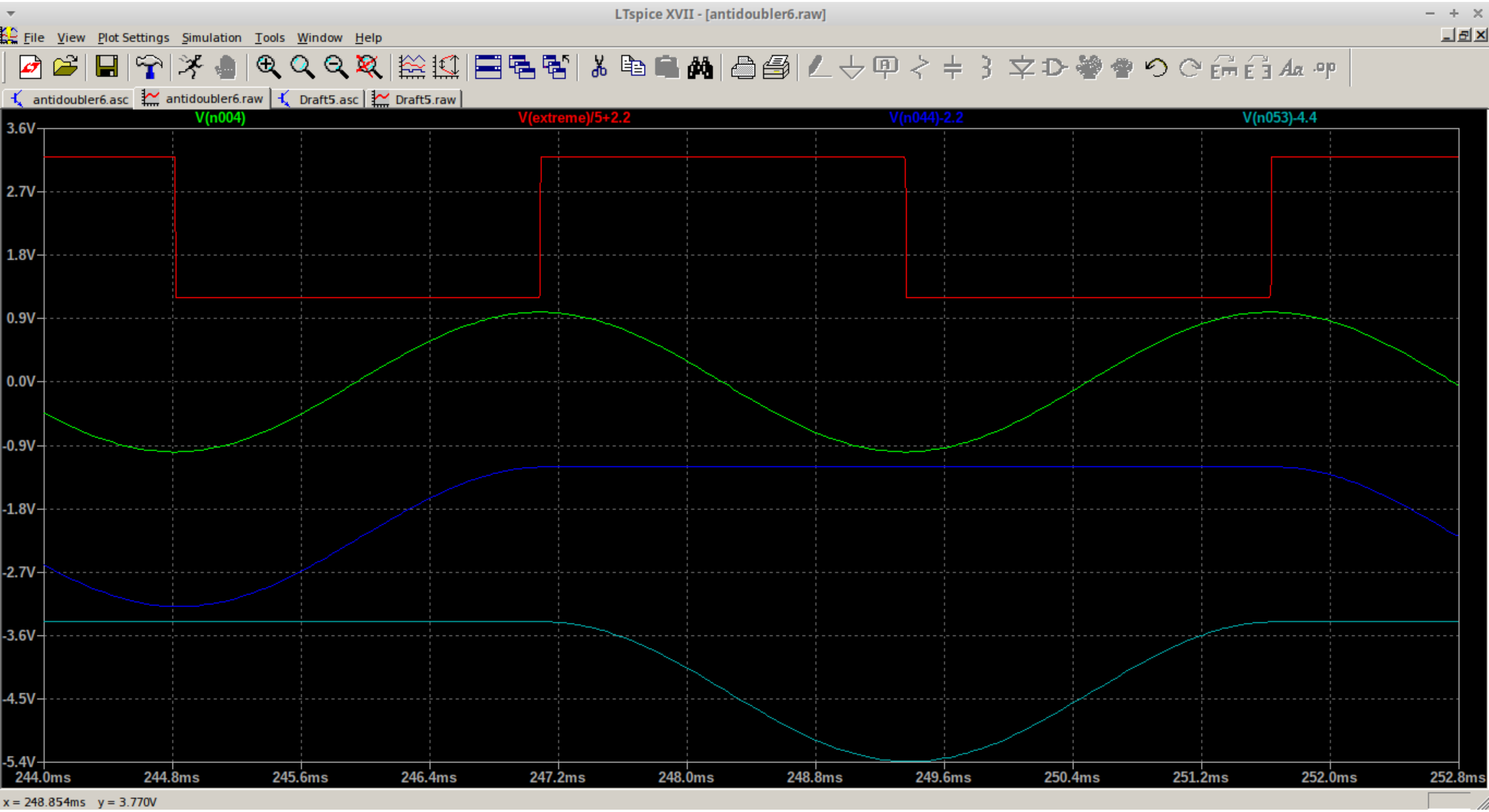
Extreme detector - waveforms



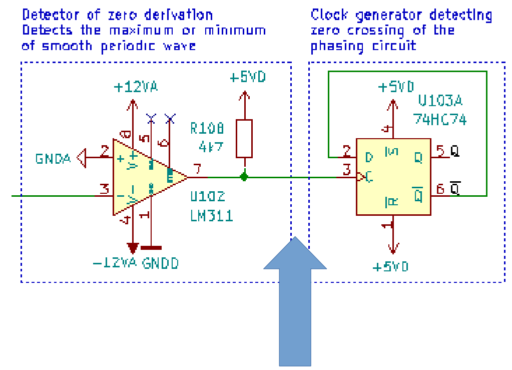
Synchronous extreme detectors

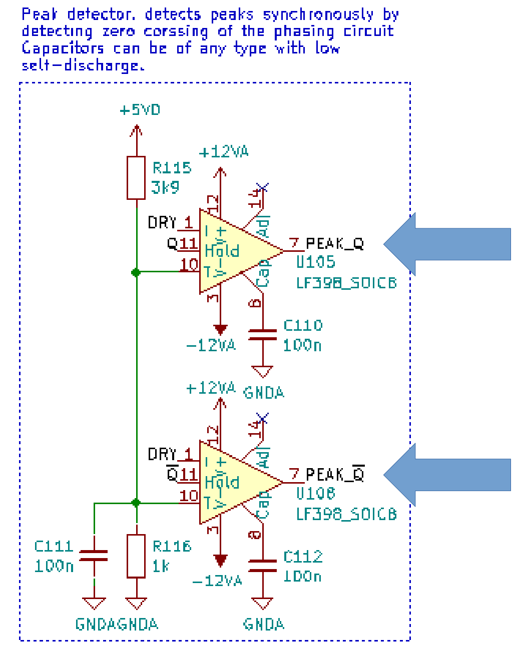


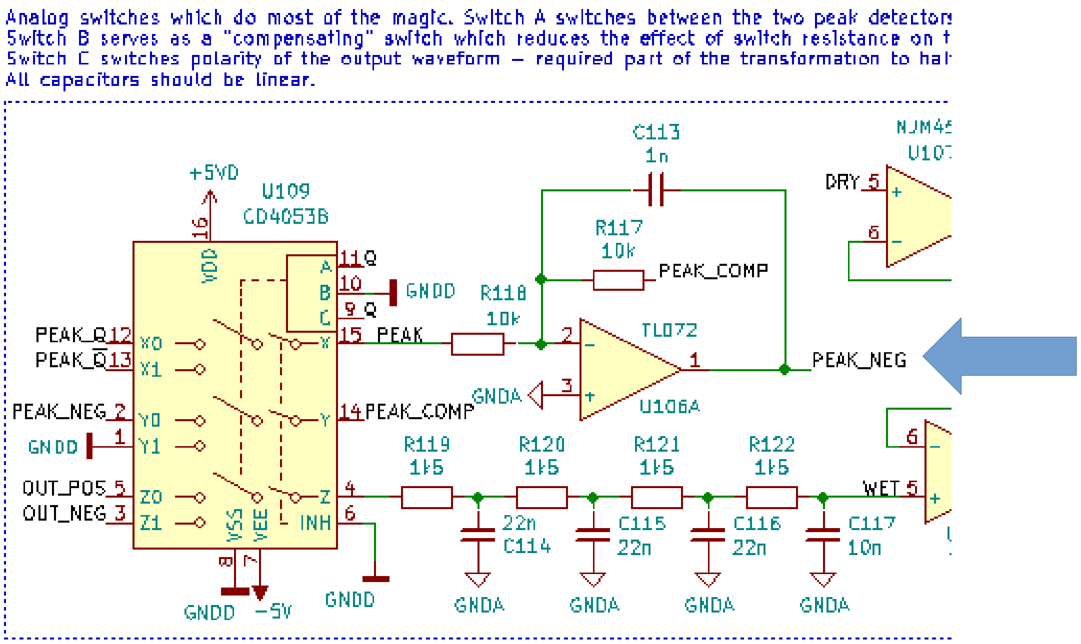
Synchronous extreme detectors



Synchronous extreme detectors







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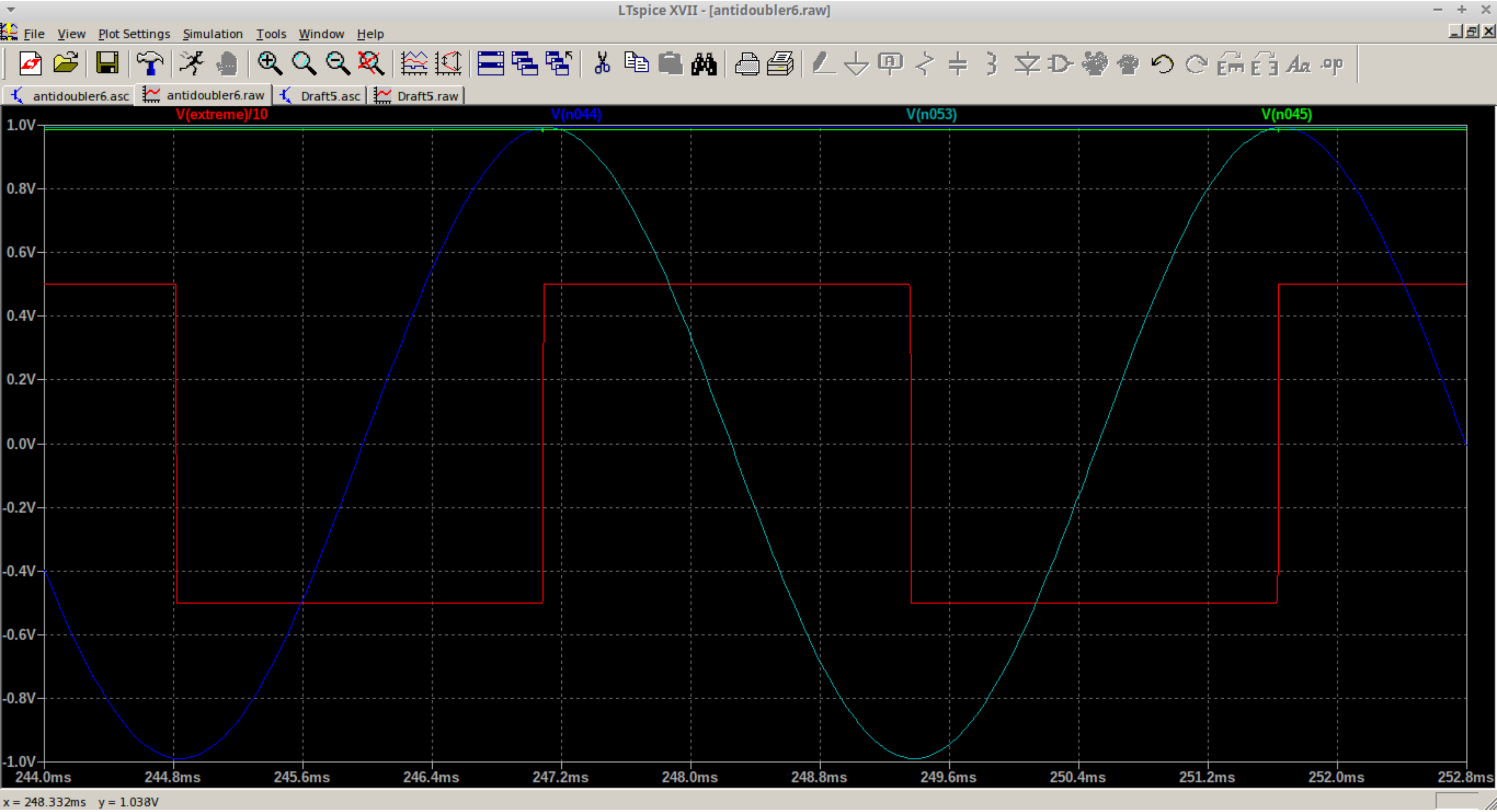
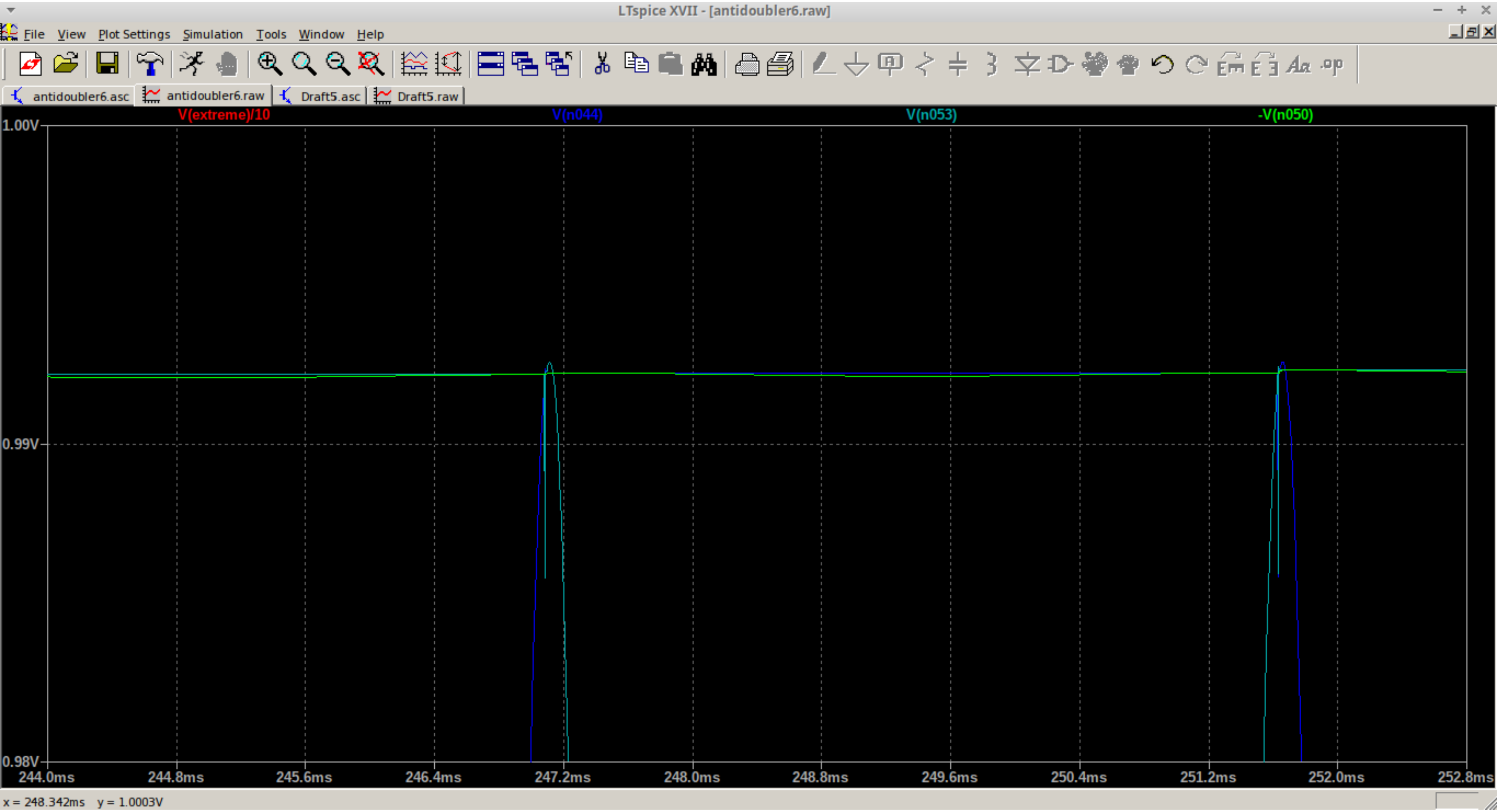
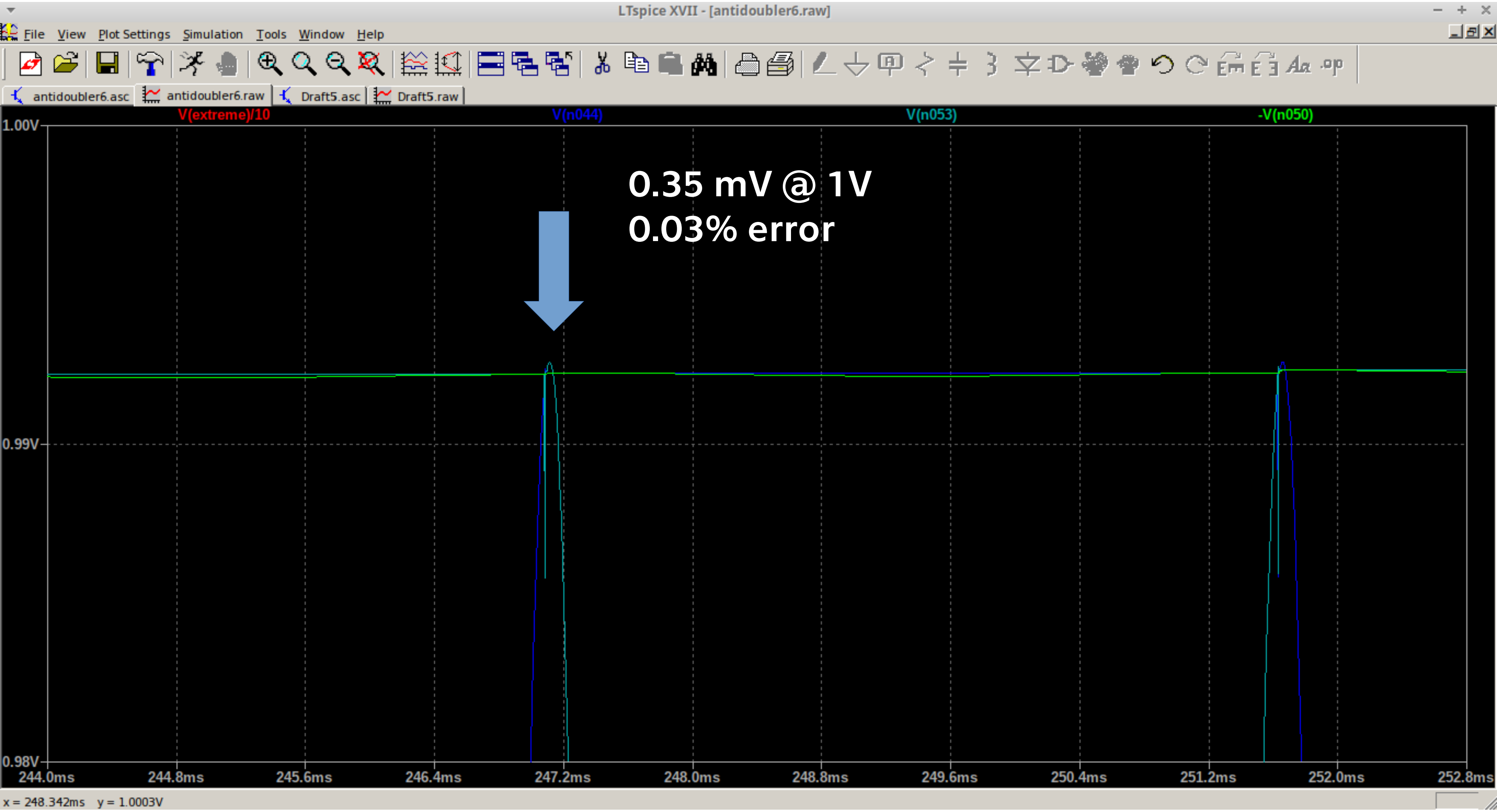


Synchronous extreme detector accuracy



Synchronous extreme detectors



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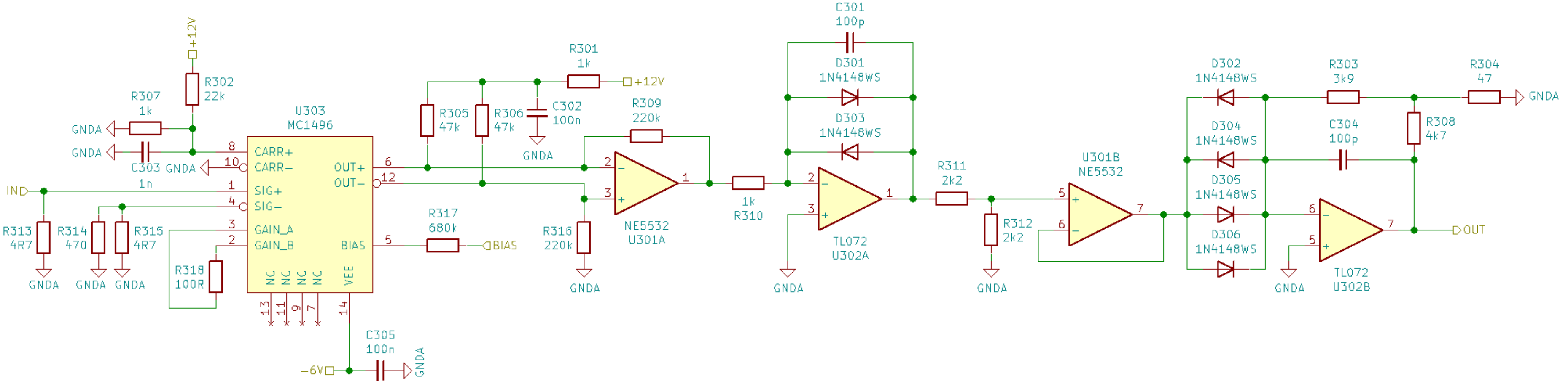
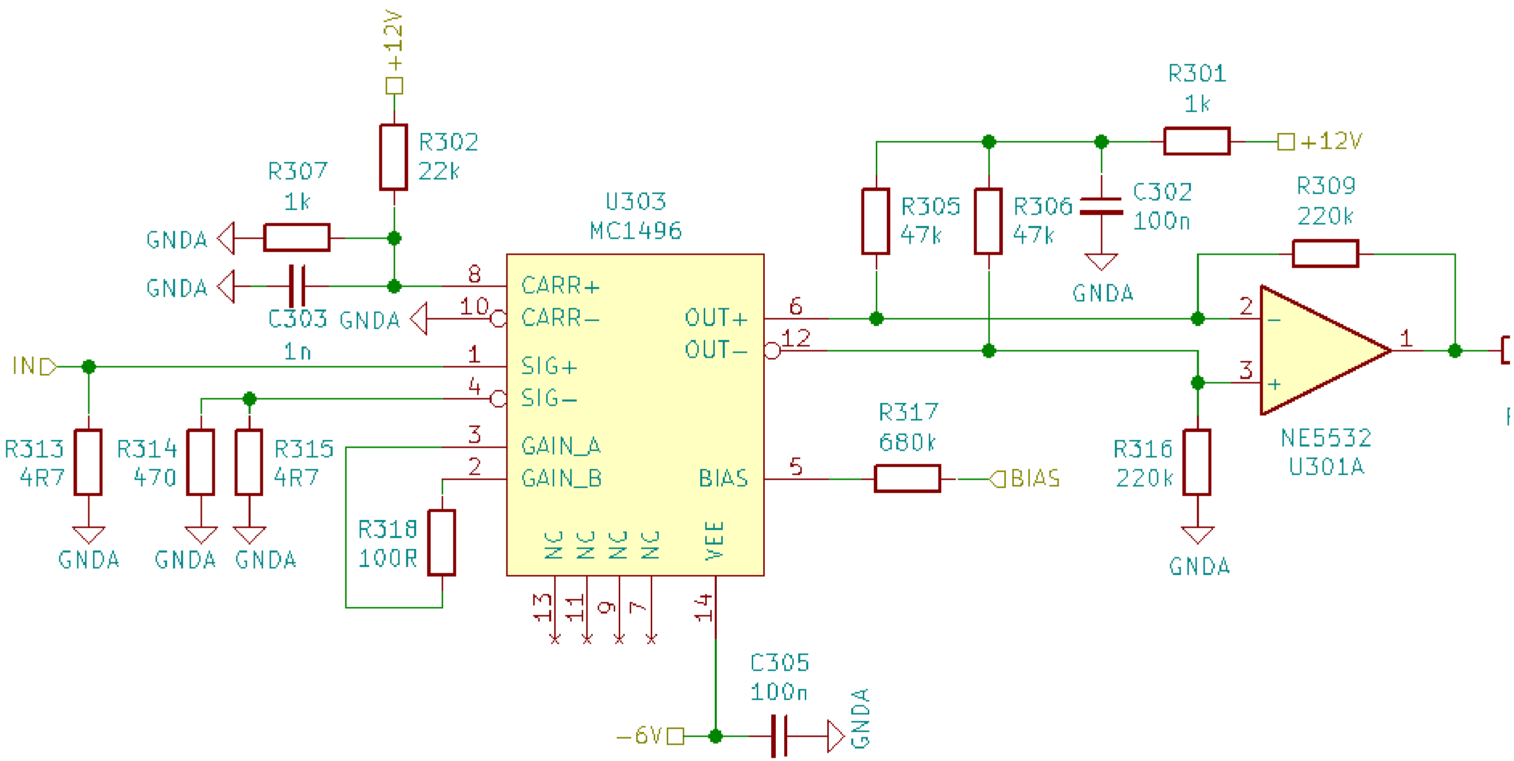
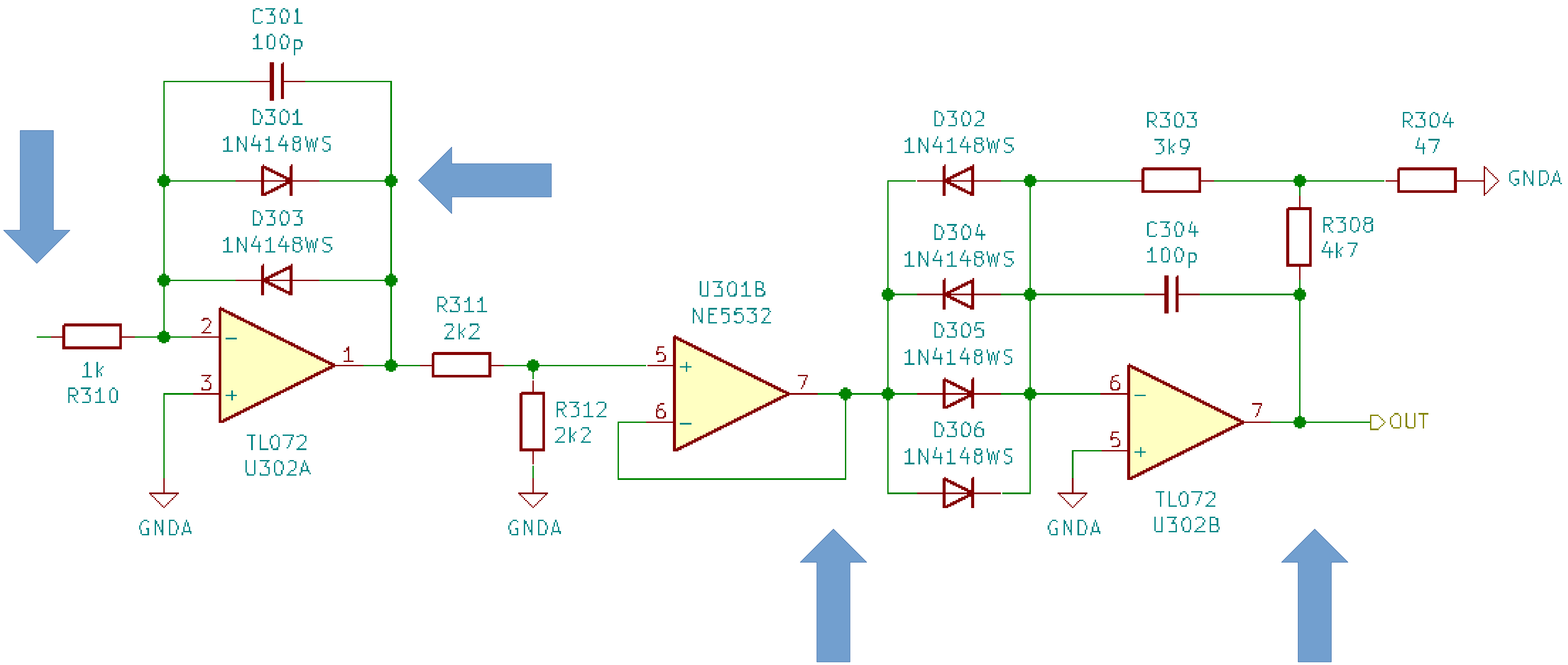
Square root finder - schematic



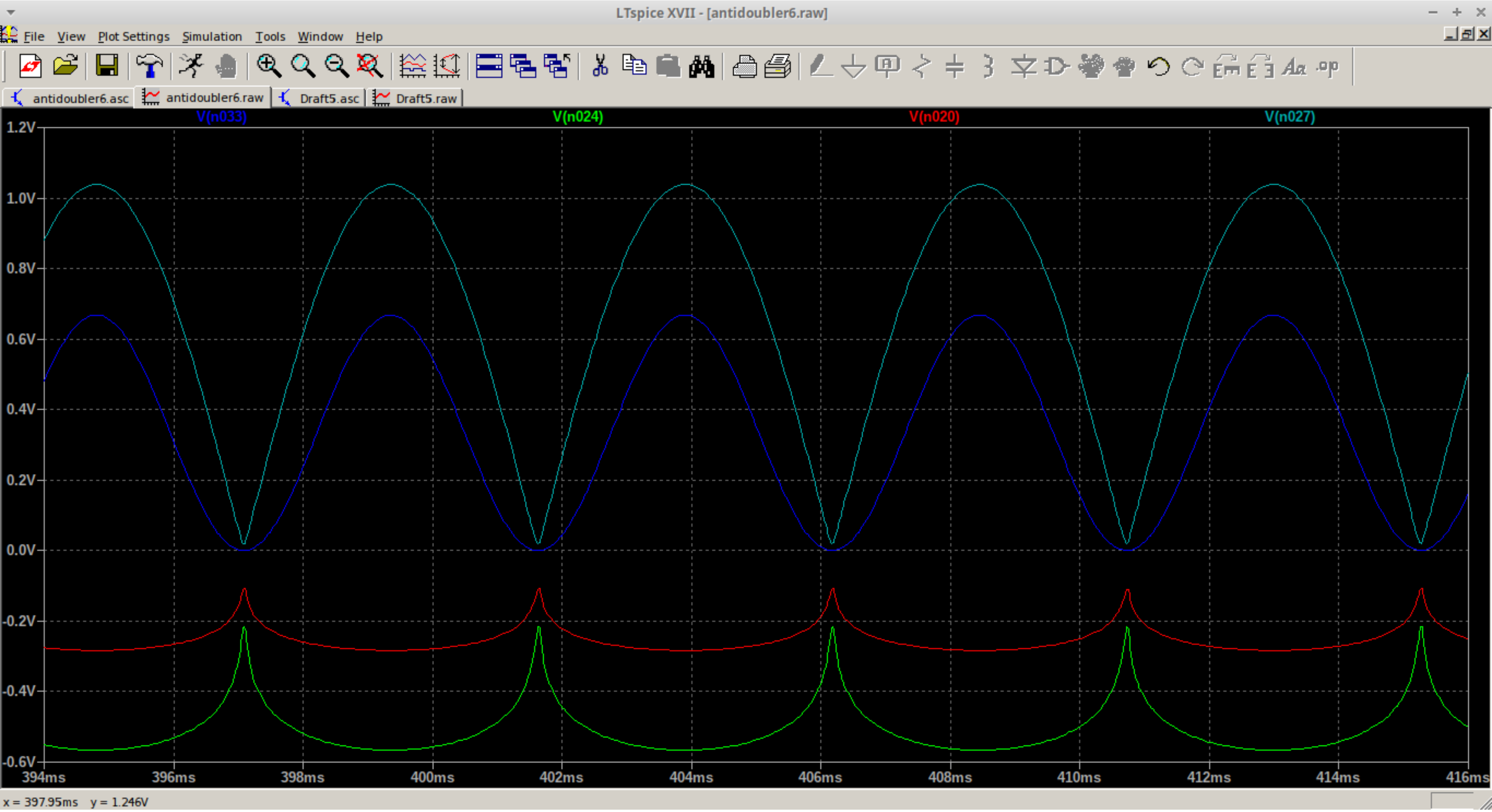
Square root finder – gain control



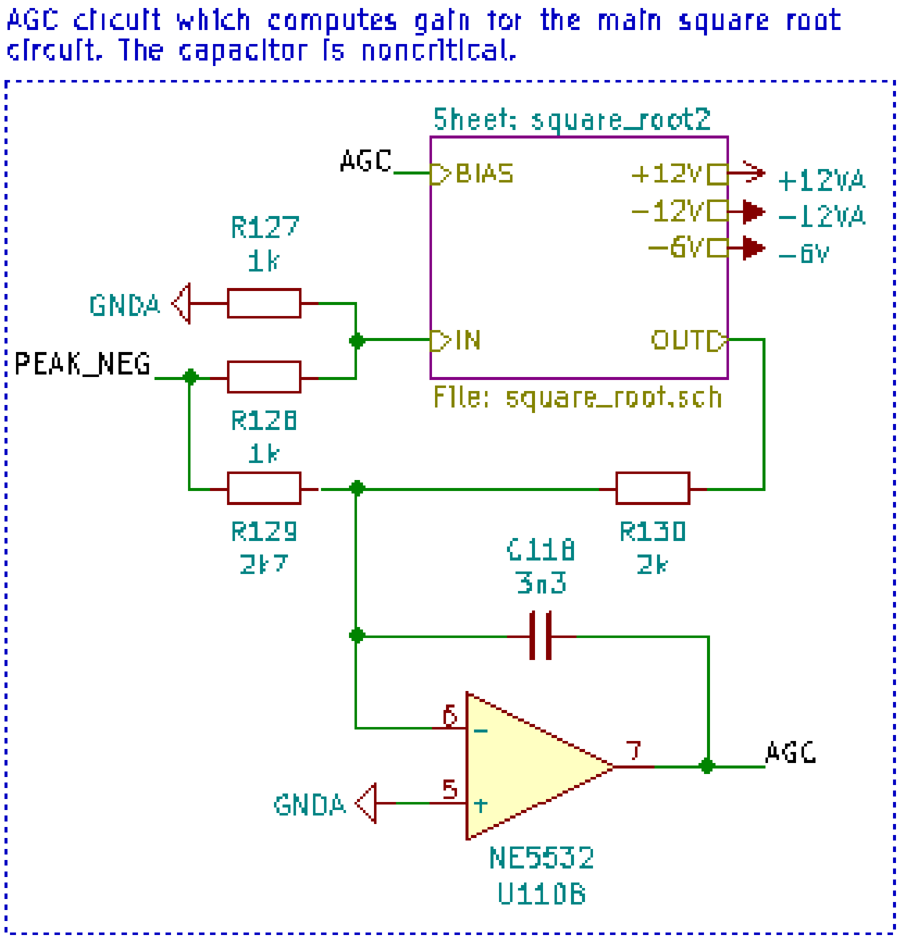
Square root finder – square root cell



Square root finder - waveforms

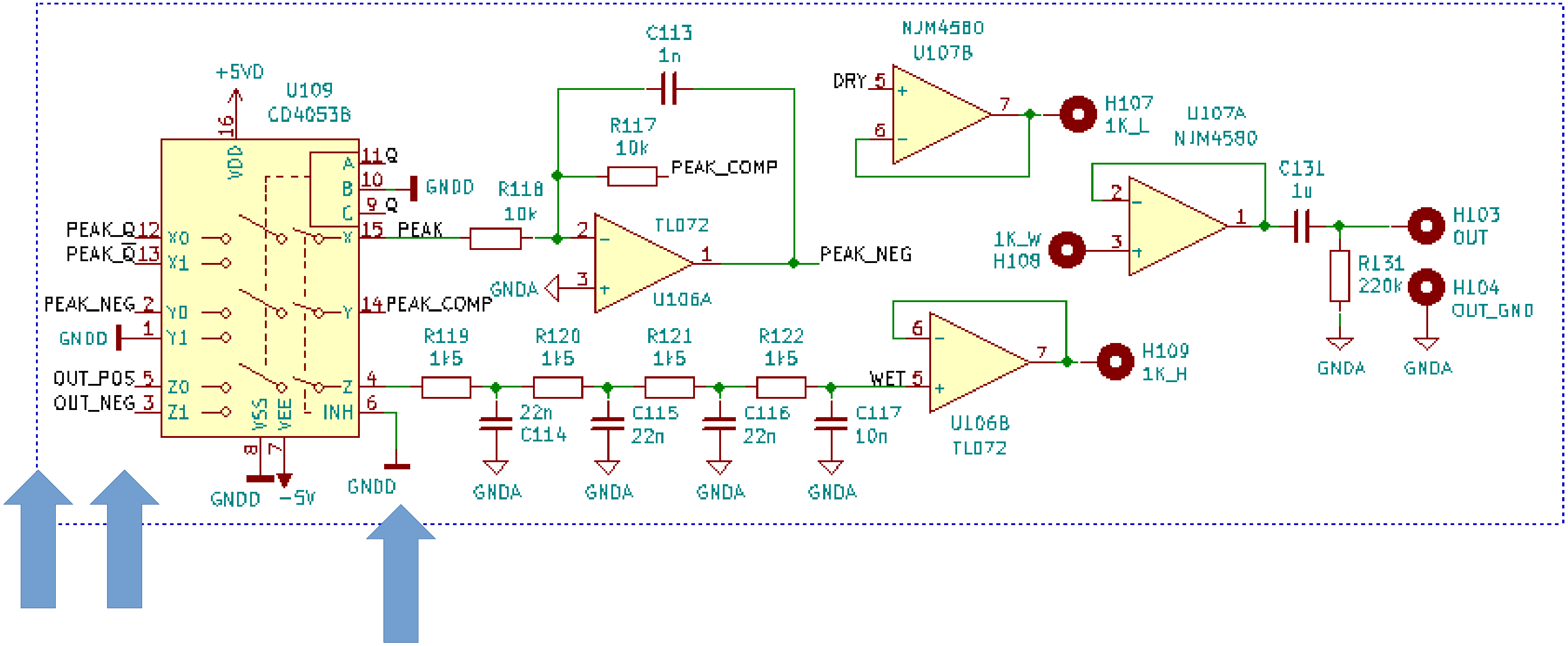


Square root finder – AGC feedback

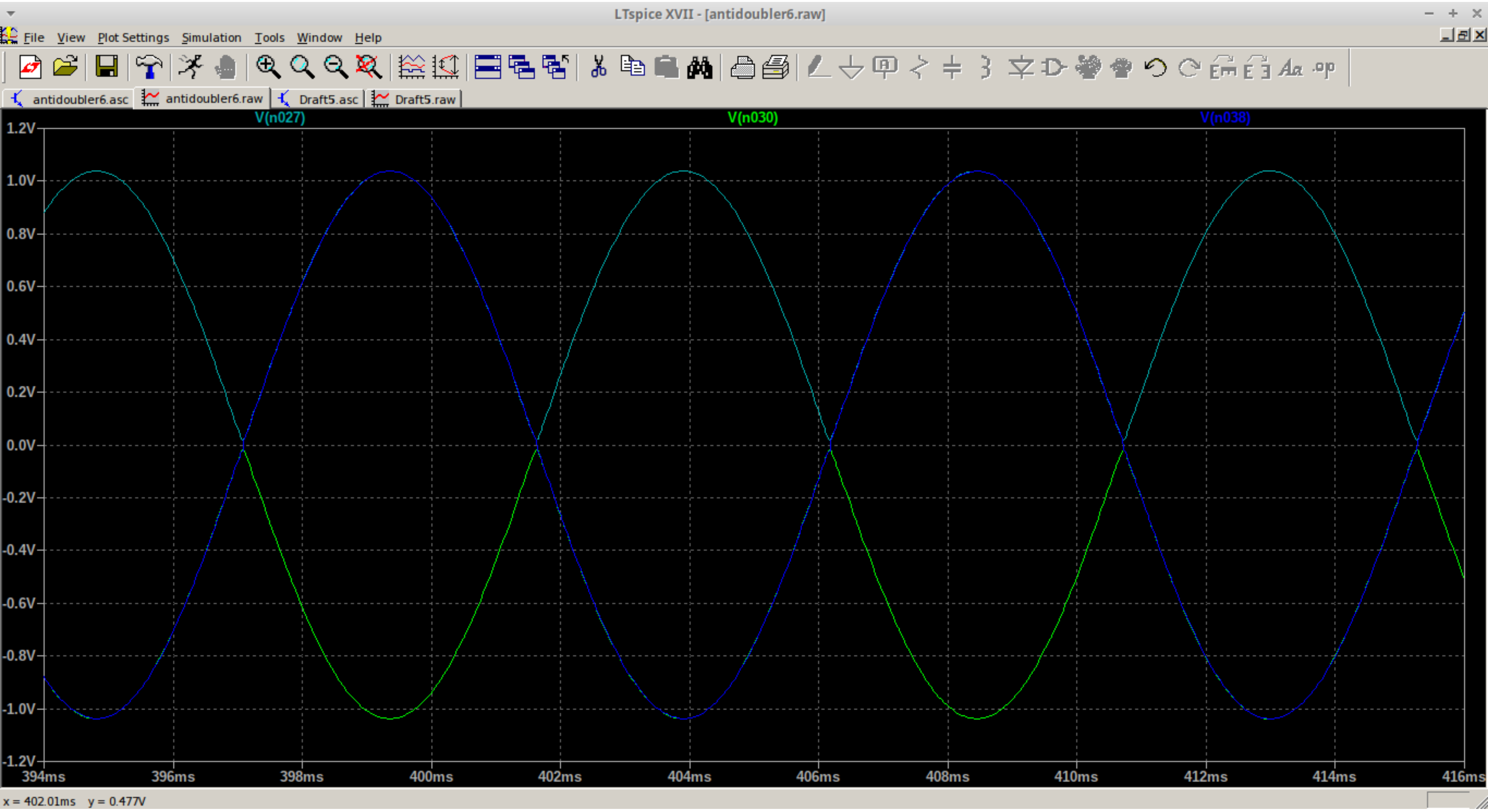


Polarity inverter - schematics

Analog switches which do most of the magic. Switch A switches between the two peak detectors.
Switch B serves as a "compensating" switch which reduces the effect of switch resistance on the performance of the inverting amplifier.
Switch C switches polarity of the output waveform – required part of the transformation to half frequency
All capacitors should be linear.



Polarity inverter - waveforms



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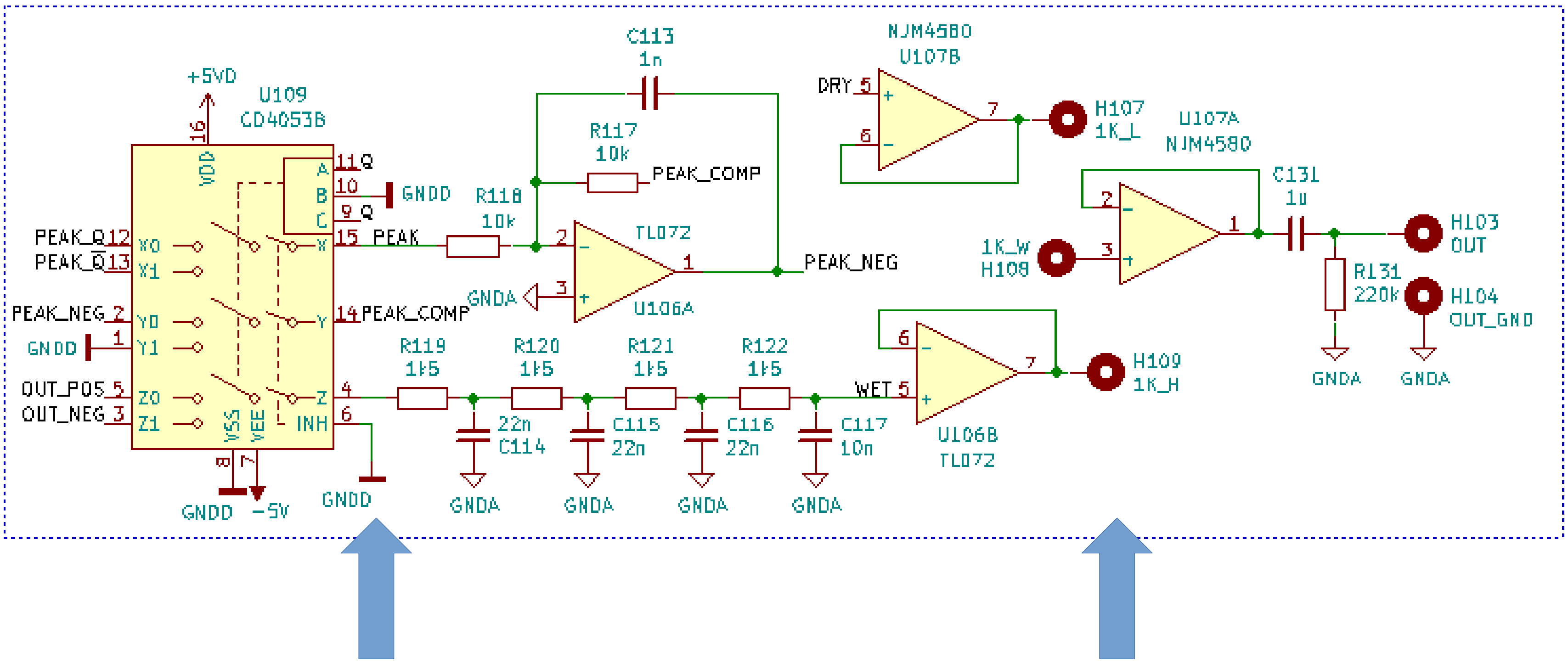
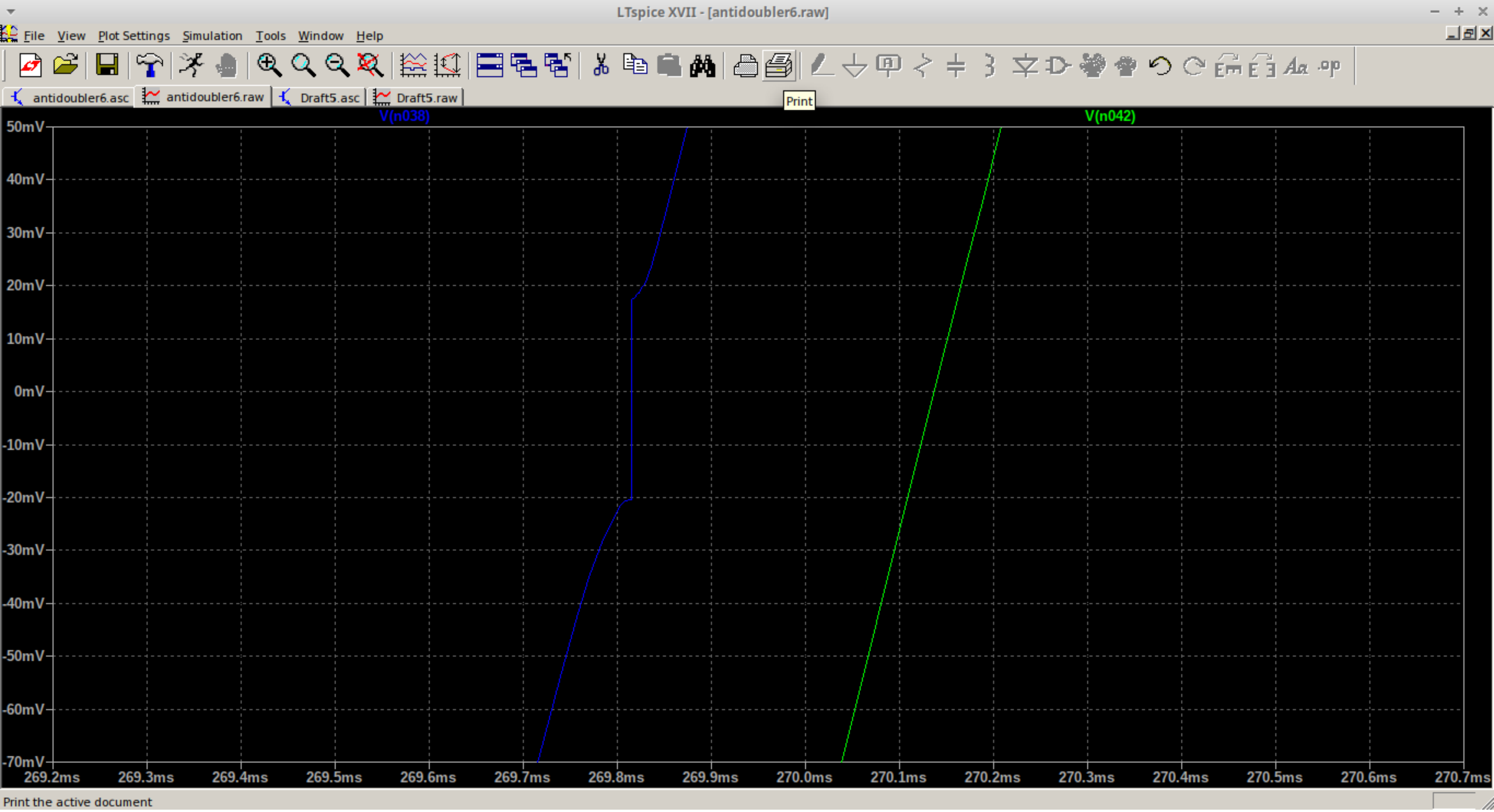


Polarity inverter – crossover distortion



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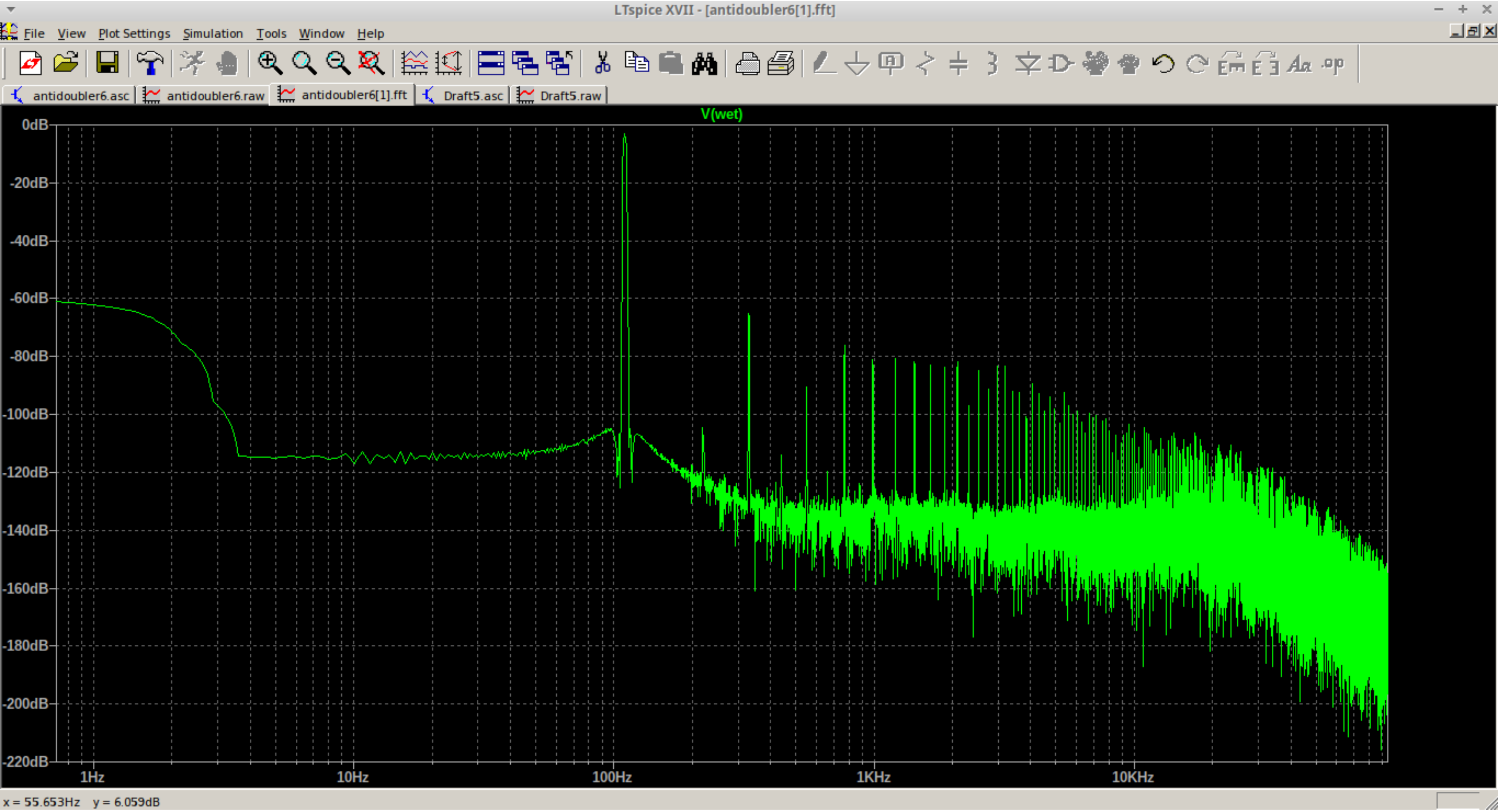
Output signal FFT



Output signal FFT - magnified