

SG502 Low Distortion Mods

The mods shown will reduce the distortion of the SGt502 to under 0.01%, typically **well** under (0.002% or less).

The single largest contributor of nonlinearity in the unmodified circuit is the T-pad attenuator -> non-ohmic wiper contact resistance -> which can cause 0.05% 3rd harmonic under worst case conditions.

The next most significant source is the high dynamic impedance in the emitter circuit of Q140 which causes primarily 2nd harmonic.

Modify at your own risk because no guarantee is expressed or implied concerning performance!! I am supplying this info as a favor and in no way am I committing Tektronix, Inc. to be responsible. If you encounter problems, please feel free to contact me. The mods have been tried and proven successful by other people.

R95 establishes the settling time of the oscillator. Larger values reduce distortion, but increase settling time. (Possibly to the point of instability) 180k is a good compromise for low distortion but may require 15 seconds to stabilize amplitude.

Good Luck

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