

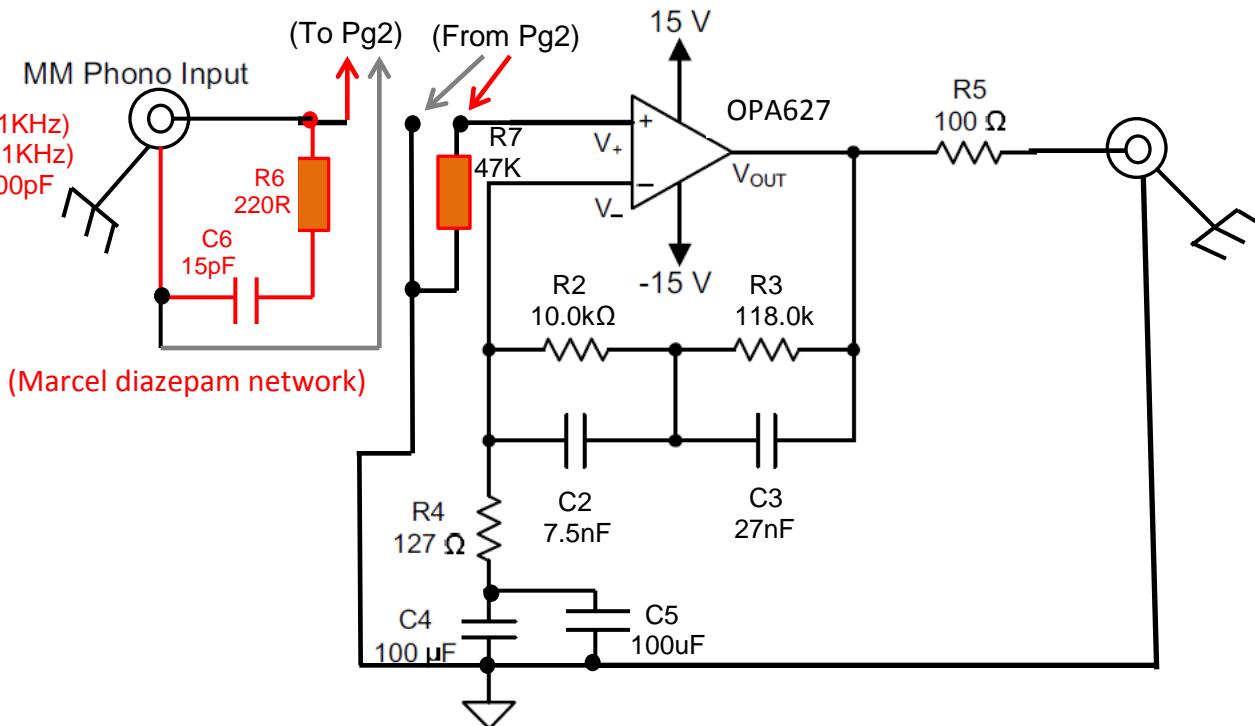
Pole #1, 50Hz:  $R_3 \times C_3 = 3180\mu\text{S}$   
Zero #1, 500Hz:  $(R_2 // R_3) \times (C_2 + C_3) = 318\mu\text{S}$   
Pole #2, 2,122Hz:  $R_2 \times C_2 = 75\mu\text{S}$

Av: 20Hz = 60dB (x1000); 1000Hz = 40db (x100); 2,122Hz = 20dB (x10)

Basic circuit taken from TI OPA1656 datasheet, pg19.

"AT-540ML" MM cartridge:

- > 4mV output @1KHz
- > DC resistance 800Ω
- > Coil impedance 2700Ω (1KHz)
- > Coil inductance 460mH (1KHz)
- > Load capacitance 200-300pF



- > RIAA EQ:  $C_2 = 2 \times 2.5\% \text{ selected polystyrene} = 7.5\text{nF}$ ;  $C_3 = 2 \times 5\% \text{ selected Wima MKP10} = 27\text{nF}$ ;  $R_{2-7} = 0.1\% \text{ or } <1\% \text{ metal film}$ .
- > Hi-pass warp/room slosh filter  $R_4, C_4, C_5 = \sim 6\text{Hz}$  Nichicon "Muse" bipolar.
- > Polystyrene caps have centered leads, clear ends and appear to be extended-foil axials.
- > TT + 3ft cable capacitance = 156pF (cart to RCA total)

**Page 1, cont:** DC-coupled Phono Preamp v2.0, cont: External AC/DC linear regulator and onboard post-filtering.

