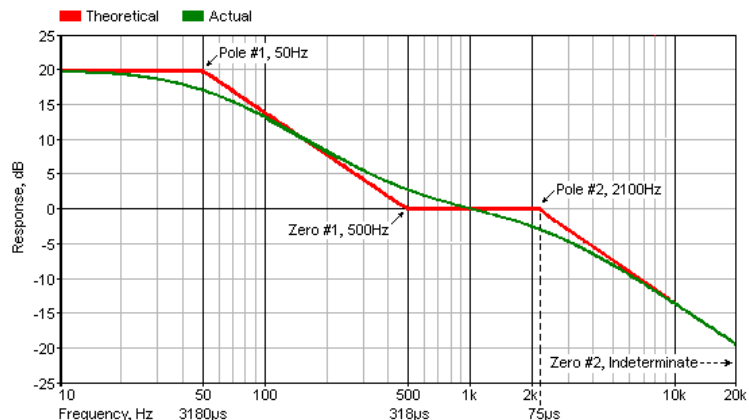


# DC-coupled Phono Preamp: Bass pole 50Hz; Bass zero 500Hz; Treble pole 2122Hz; ~~Passive pole 200KHz~~ 9-22-2024 11-17-21

ESP



Pole #1, 50Hz:  $R3 \times C3 = 3180\mu s$   
 Zero #1, 500Hz:  $(R2 \parallel R3) \times (C2 + C3) = 318\mu s$   
 Pole #2, 2122Hz:  $R2 \times C2 = 75\mu s$

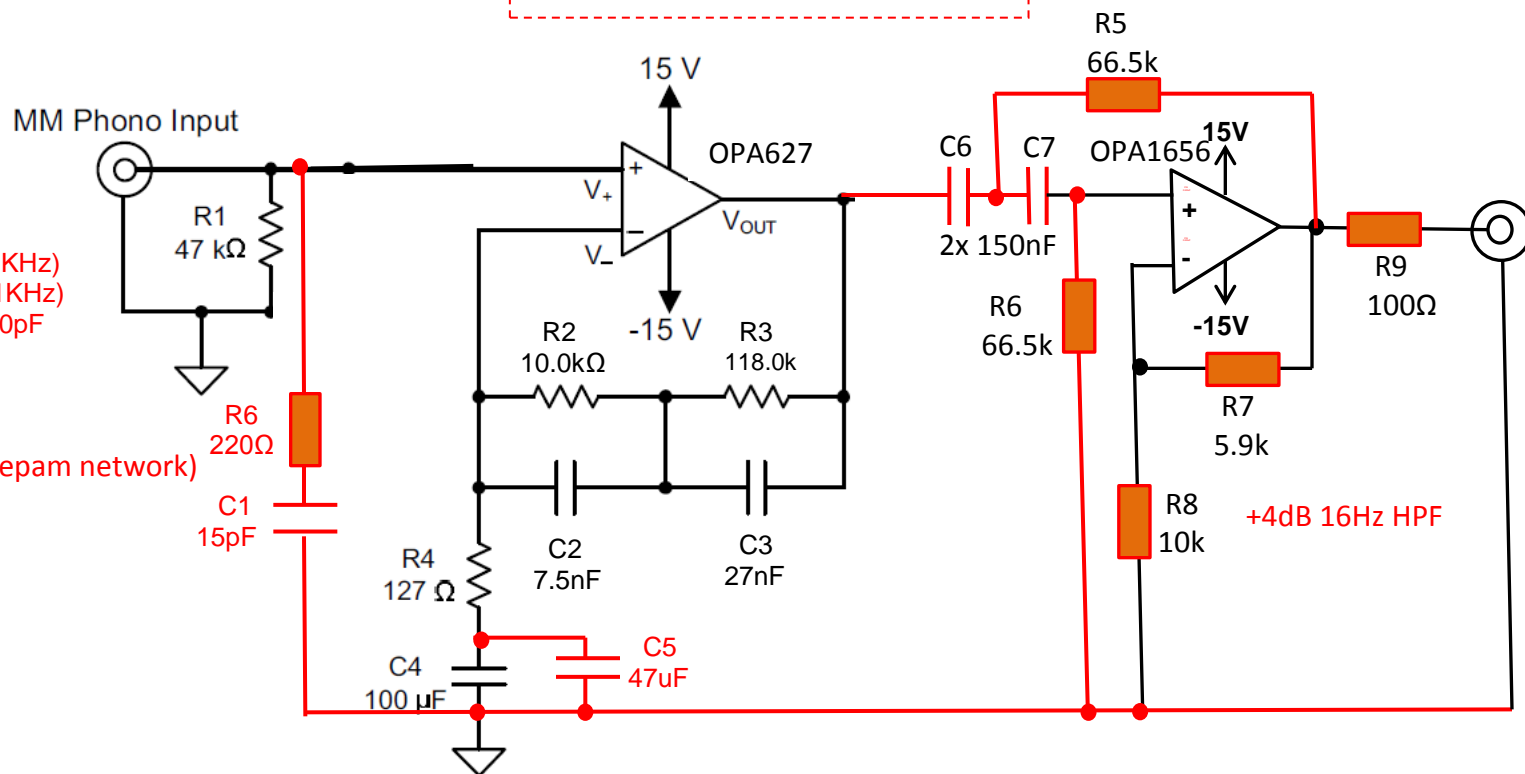
Av: 20Hz = 60dB (x1000); 1000Hz = 40db (x100); 21KHz = 20dB (x10)

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

(Marcel diazepam network)



- ★ RIAA EQ C2 = 2x 2.5% selected polystyrene = 7.5nF and C3 = 2x 5% selected Wima MKP10 = 27nF. R1-6 = 0.1% or <1% metal film.
  - ★ Hi-pass warp filter Fc = ~6Hz pole, C4 = 2x 100uF bi-polar Nichicon "Muse".
- Polystyrene caps have centered leads, clear ends and appear to be extended-foil axials. TT + 3ft cable capacitance = 193pF

DC-coupled Phono Preamp, cont: External AC/DC linear regulator and onboard post-filtering.

