Med 3 RC-led

$GaindB := 2.62 \cdot 2 = 5.24$

$fHigh := 1000 \; \mathbf{Hz}$

$Ri := 10 \; \mathbf{k\Omega}$

$fLow := 20 \; \mathbf{Hz}$

$G0 := 1$

$20 \cdot log(G0) = GaindB$

$\mathbf{G0} := \mathbf{Find}(G0) = 1.8281$

$\mathbf{G0} = 1.828$

$Rf := Ri \cdot \mathbf{G0} = 18.281 \; \mathbf{k\Omega}$

$G0.6 := GaindB \cdot \dfrac{2}{3} = 3.493$

$G0.3 := GaindB \cdot \dfrac{1}{3} = 1.747$

$G1 := 1$

$20 \cdot log(G1) = G0.6$

$\mathbf{G1} := \mathbf{Find}(G1) = 1.4951$

$G1 := 10^{\frac{G0.6}{20}} = 1.4951$

$G1 = 1.4951$

$G2 := 1$

$20 \cdot log(G2) = G0.3$

$\mathbf{G2} := \mathbf{Find}(G2) = 1.2227$

$G2 := 10^{\frac{G0.3}{20}} = 1.2227$

$G2 = 1.2227$

$G3 := 1$

$20 \cdot log(G3) = 0$

$\mathbf{G3} := \mathbf{Find}(G3) \; 1$

$G3 := 10^{\frac{0}{20}} = 1$

$G3 = 1$

$Rf' := G1 \cdot Ri = 14.951 \; \mathbf{k\Omega}$

$Rf'' := G2 \cdot Ri = 12.227 \; \mathbf{k\Omega}$

$Rf''' := G3 \cdot Ri = 10 \; \mathbf{k\Omega}$

$R1 := \dfrac{Rf \cdot Rf'}{Rf - Rf'} = 82.074 \; \mathbf{k\Omega}$

$$R2 := \frac{Rf' \cdot Rf''}{Rf' - Rf''} = 67.123 \ \textbf{k}\boldsymbol{\Omega}$$

$$R3 := \frac{Rf'' \cdot Rf'''}{Rf'' - Rf'''} = 54.896 \ \textbf{k}\boldsymbol{\Omega}$$

$$Rf' := \frac{R1 \cdot Rf}{R1 + Rf} = 14.951 \ \textbf{k}\boldsymbol{\Omega}$$

$$Rf'' := \frac{R2 \cdot Rf'}{R2 + Rf'} = 12.227 \ \textbf{k}\boldsymbol{\Omega}$$

$$Rf''' := \frac{R3 \cdot Rf''}{R3 + Rf''} = 10 \ \textbf{k}\boldsymbol{\Omega}$$

$R1 = 82.074 \ \textbf{k}\boldsymbol{\Omega}$ $\qquad$ $Rf = 18.281 \ \textbf{k}\boldsymbol{\Omega}$
$R2 = 67.123 \ \textbf{k}\boldsymbol{\Omega}$ $\qquad$ $Ri = 10 \ \textbf{k}\boldsymbol{\Omega}$
$R3 = 54.896 \ \textbf{k}\boldsymbol{\Omega}$

$fHigh := 1000 \ \textbf{Hz}$ $\qquad$ $fLow := 55 \ \textbf{Hz}$

$$f\_logstep := \frac{1}{3} \ \log\left(\frac{fHigh}{fLow}\right) = 0.42$$

$p1 := fLow = 55 \ \textbf{Hz}$

$p2 := p1 \cdot 10^{1 \cdot f\_logstep} = 144.624 \ \textbf{Hz}$

$p3 := p1 \cdot 10^{2 \cdot f\_logstep} = 380.295 \ \textbf{Hz}$

$p4 := p1 \cdot 10^{3 \cdot f\_logstep} = 1000 \ \textbf{Hz}$

$$C1 := \frac{1}{(R1 + Rf) \cdot 2 \cdot \boldsymbol{\pi} \cdot p1} = 28.835 \ \textbf{nF}$$

$$C2 := \frac{1}{(R2 + Rf') \cdot 2 \cdot \boldsymbol{\pi} \cdot p2} = 13.408 \ \textbf{nF}$$

$$C3 := \frac{1}{(R3 + Rf'') \cdot 2 \cdot \boldsymbol{\pi} \cdot p3} = 6.235 \ \textbf{nF}$$