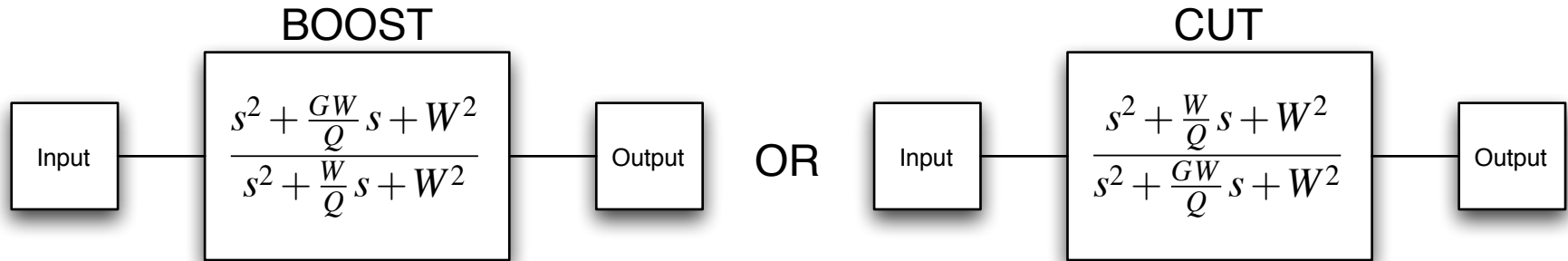


CP-10 2nd order Symmetric Parametric



$$F := 10\text{Hz} \rightarrow 20\text{kHz} \quad W = 2\pi F$$

$$Octave_{3dB} := 2.0 \rightarrow 0.1 \quad Q = \frac{1.43}{Octave_{3dB}}$$

$$Gain_{dB} := 0 \rightarrow 20 \quad G = 10^{\left(\frac{Gain_{dB}}{20}\right)}$$

$$f_p = F \quad P = \frac{2\pi f_p}{\tan\left(\pi \frac{f_p}{f_s}\right)} \quad s = P \frac{z-1}{z+1}$$

$$\frac{\frac{P^2 Q + GPW + QW^2}{P^2 Q + PW + QW^2} z^2 + \frac{-2P^2 Q + 2QW^2}{P^2 Q + PW + QW^2} z + \frac{P^2 Q - GPW + QW^2}{P^2 Q + PW + QW^2}}{z^2 + \frac{-2P^2 Q + 2QW^2}{P^2 Q + PW + QW^2} z + \frac{P^2 Q - PW + QW^2}{P^2 Q + PW + QW^2}}$$

$$\frac{\frac{P^2 Q + PW + QW^2}{P^2 Q + GPW + QW^2} z^2 + \frac{-2P^2 Q + 2QW^2}{P^2 Q + GPW + QW^2} z + \frac{P^2 Q - PW + QW^2}{P^2 Q + GPW + QW^2}}{z^2 + \frac{-2P^2 Q + 2QW^2}{P^2 Q + GPW + QW^2} z + \frac{P^2 Q - GPW + QW^2}{P^2 Q + GPW + QW^2}}$$