$$-\frac{I_2}{I_1} = H \cdot \frac{S^2+5S+4}{S^2+8S+12} = H\,\frac{(S+1)(S+4)}{(S+2)(S+6)} \qquad Z_{21} = 6H \qquad V_2 = (-I_2)R_L$$

$$\begin{cases} V_1 = Z_{11}I_1 + Z_{12}I_2 \\ V_2 = Z_{21}I_1 + Z_{22}I_2 \end{cases}$$

$$-I_2R_L = Z_{21}I_1 + Z_{22}I_2$$

$$-I_2(R_L+Z_{22}) = Z_{21}I_1$$

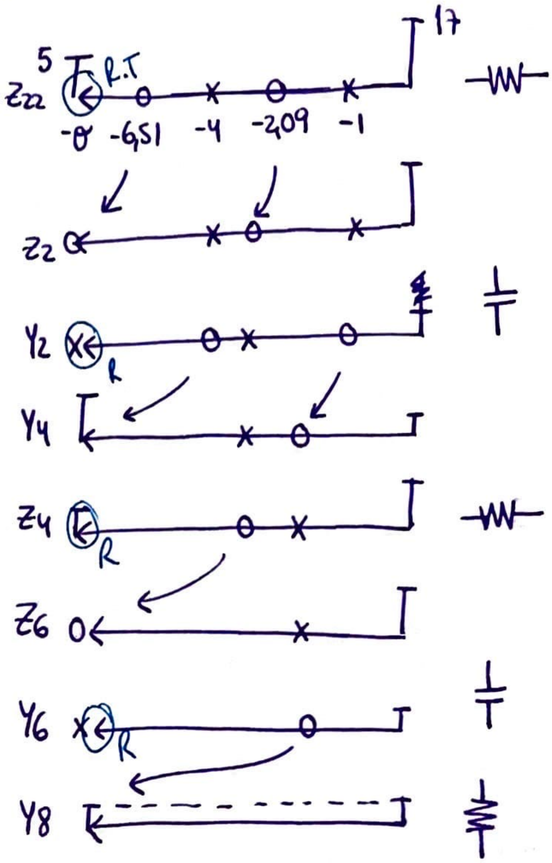
$$R_L + Z_{22} = \frac{1}{T(S)} \cdot Z_{21}$$

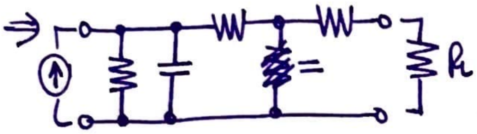
Norm. R

$$Z_{22} + 1 = \frac{(S+2)(S+6)}{(S+1)(S+4)} \cdot 6$$

$$Z_{22} = \frac{6S^2+48S+72-S^2-5S-4}{(S+1)(S+4)}$$

$$Z_{22} = \frac{5S^2+43S+68}{(S+1)(S+4)} = \frac{5(S+2{,}09)(S+6{,}51)}{(S+1)(S+4)}$$





$R_1 = 5$ (Valor de Z_{22} en $S \to \infty$)

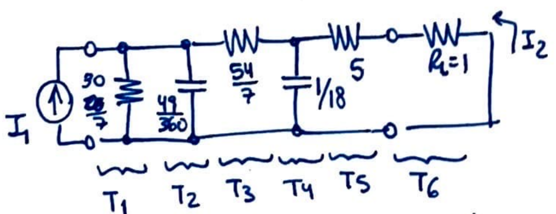
$$Z_2 = Z_{22} - 5 = \frac{5S^2+43S+68-5S^2-25S-20}{(S+1)(S+4)} = \frac{18S+48}{(S+1)(S+4)} = \frac{18(S+8/3)}{(S+1)(S+4)}$$

$$Y_2 = \frac{(S+1)(S+4)}{18(S+8/3)} \qquad \lim_{S\to\infty} SC_3 = \lim_{S\to\infty} Y_2 \rightarrow C_3 = \lim_{S\to\infty}\frac{Y_2}{S} = \frac{(S+1)(S+4)}{18S(S+3)} = \frac{1}{18}$$

$$Y_4 = Y_2 - SC_3 = \frac{S^2+5S+4-S^2-8/3\,S}{18(S+8/3)} = \frac{7/3\,S+4}{18(S+8/3)} = \frac{7}{54}\,\frac{S+12/7}{S+8/3} \longrightarrow Z_4 = \frac{54}{7}\,\frac{S+8/3}{S+12/7}$$

$$R_5 = \lim_{S\to\infty} Z_4 = \frac{54}{7} \qquad Z_6 = Z_4 - \frac{54}{7} = \frac{54}{7}\left(\frac{S+8/3}{S+12/7} - 1\right) = \frac{54}{7}\cdot\frac{S+\frac{56}{21}-S-\frac{36}{21}}{S+12/7} = \frac{54}{7}\cdot\frac{20}{21}\cdot\frac{1}{S+12/7}$$

$$Z_6 = \frac{360}{49}\cdot\frac{1}{S+12/7} \qquad Y_6 = \frac{49}{360}\cdot(S+12/7) \qquad C_7 = \frac{49}{360} \qquad Y_8 = \frac{12}{7}\cdot\frac{49}{360} = \frac{7}{30} \rightarrow R_8 = \frac{30}{7}$$



Se debe comprobar que: $-\frac{I_2}{I_1}\cdot\frac{1}{H} = \frac{(S+1)(S+4)}{(S+2)(S+6)}$

$$T: \begin{cases} V_1 = AV_2 + B(-I_2) \\ I_1 = CV_2 + D(-I_2) \end{cases} \qquad -\frac{I_2}{I_1} = \frac{1}{D}$$

(Por la config. elegida de cuadrip. para R_L, quiero salida en corto)

$$T_1 = \begin{pmatrix} 1 & 0 \\ \frac{7}{30} & 1 \end{pmatrix} \quad T_2 = \begin{pmatrix} 1 & 0 \\ \frac{49}{360} & 1 \end{pmatrix} \quad T_3 = \begin{pmatrix} 1 & 54/7 \\ 0 & 1 \end{pmatrix}$$

$$T_4 = \begin{pmatrix} 1 & 0 \\ 1/18 & 1 \end{pmatrix} \quad T_5 = \begin{pmatrix} 1 & 5 \\ 0 & 1 \end{pmatrix} \quad T_6 = \begin{pmatrix} 1 & 1 \\ 0 & 1 \end{pmatrix}$$

$$H = \frac{Z_{21}}{6} = \frac{1}{6}\left.\frac{V_2}{I_1}\right|_{I_2=0} = \frac{1}{C}\cdot\frac{1}{6}$$

$$\Rightarrow \frac{1}{D}\cdot 6C = \frac{(S+1)(S+4)}{(S+2)(S+6)}$$