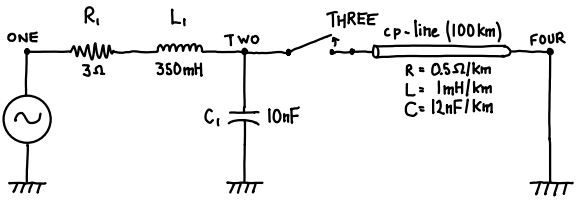


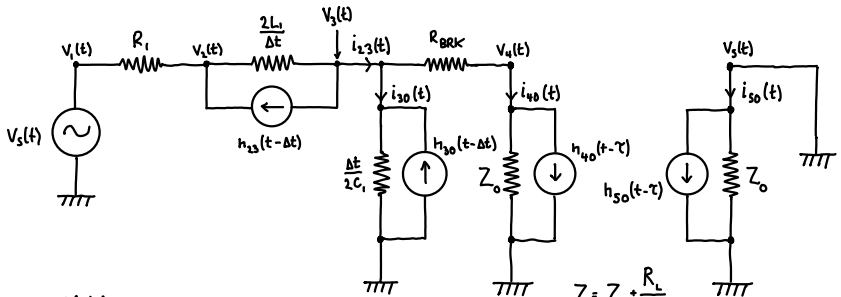


$$Z_o = Z_c + \frac{R_L}{4}$$

## Bergeron Model

$$h_{40}(t-\tau) = \left(\frac{1+H}{2}\right)\left[-\frac{1}{Z_o}V_{50}(t-\tau) - Hi_{50}(t-\tau)\right] + \left(\frac{1-H}{2}\right)\left[-\frac{1}{Z_o}V_{40}(t-\tau) - Hi_{40}(t-\tau)\right]$$

$$H = \frac{Z_o - \frac{R_L}{4}}{Z_o + \frac{R_L}{4}}$$

$h_1 = 0$
$h_2 = h_{23}$
$h_3 = h_{30} - h_{23}$
$h_4 = -h_{40}$
$h_5 = -h_{50}$

$$h_{50}(t-\tau) = \left(\frac{1+H}{2}\right)\left[-\frac{1}{Z_o}V_{40}(t-\tau) - Hi_{40}(t-\tau)\right] + \left(\frac{1-H}{2}\right)\left[-\frac{1}{Z_o}V_{50}(t-\tau) - Hi_{50}(t-\tau)\right]$$

$g_{11} = \frac{1}{R_1}$ $\quad g_{21} = -\frac{1}{R_1}$ $\quad g_{31} = 0$ $\quad g_{41} = 0$

$g_{12} = -\frac{1}{R_1}$ $\quad g_{22} = \frac{1}{R_1} + \frac{1}{R_{23}}$ $\quad g_{32} = -\frac{1}{R_{23}}$ $\quad g_{42} = 0$

$g_{13} = 0$ $\quad g_{23} = -\frac{1}{R_{23}}$ $\quad g_{33} = \frac{1}{R_{23}} + \frac{1}{R_{30}} + \frac{1}{R_{BRK}}$ $\quad g_{43} = -\frac{1}{R_{BRK}}$

$g_{14} = 0$ $\quad g_{24} = 0$ $\quad g_{34} = -\frac{1}{R_{BRK}}$ $\quad g_{44} = \frac{1}{R_{BRK}} + \frac{1}{Z_o}$