

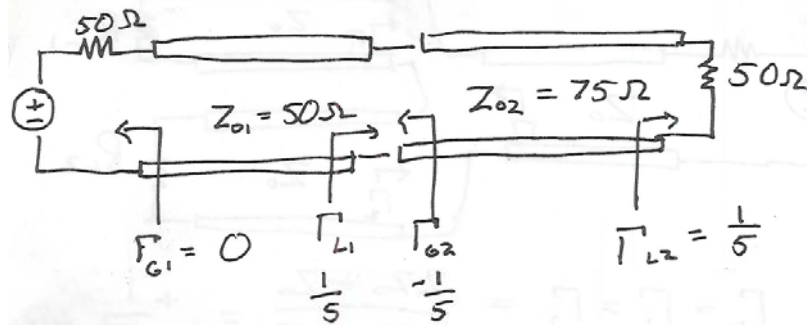
TDT5: Cascades and Fan-Outs

By Prof. Gregory D. Durgin

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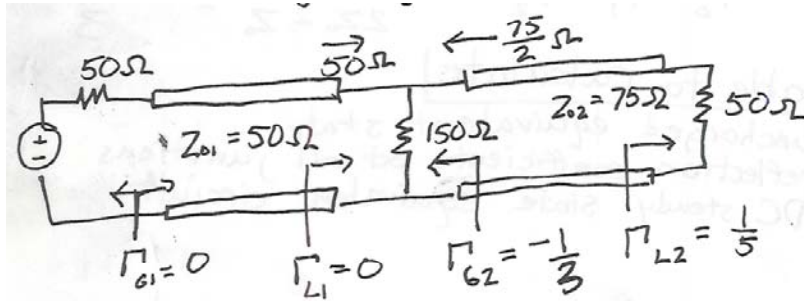
Cascaded Transmission Lines



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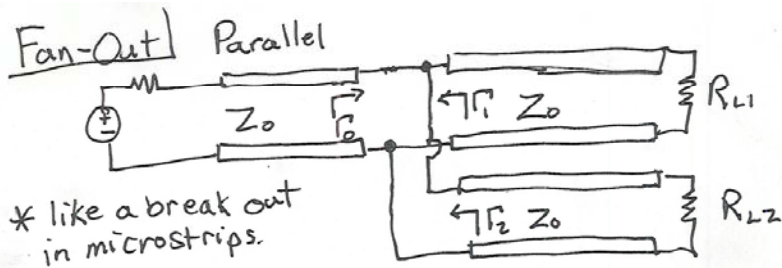
Cascaded Network with Matching Resistor



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Parallel Fan-Out



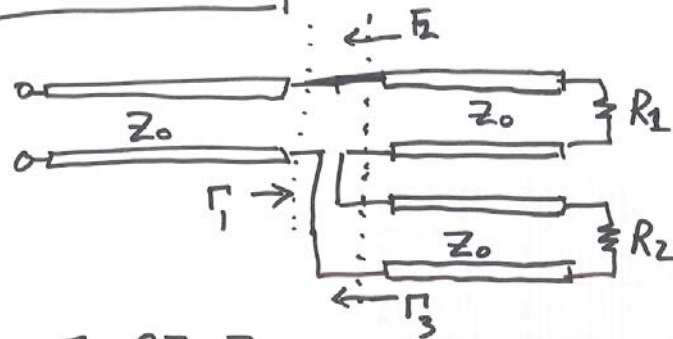
$$\Gamma_0 = \Gamma_1 = \Gamma_2 = \frac{\frac{1}{2}Z_0 - Z_0}{\frac{1}{2}Z_0 + Z_0} = -\frac{1}{3}$$

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Series Fan-Out

Series Fan-Out



$$\Gamma_1 = \frac{2Z_0 - Z_0}{2Z_0 + Z_0} = +\frac{1}{3} \quad \Gamma_3 = \Gamma_2 = \Gamma_1$$

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