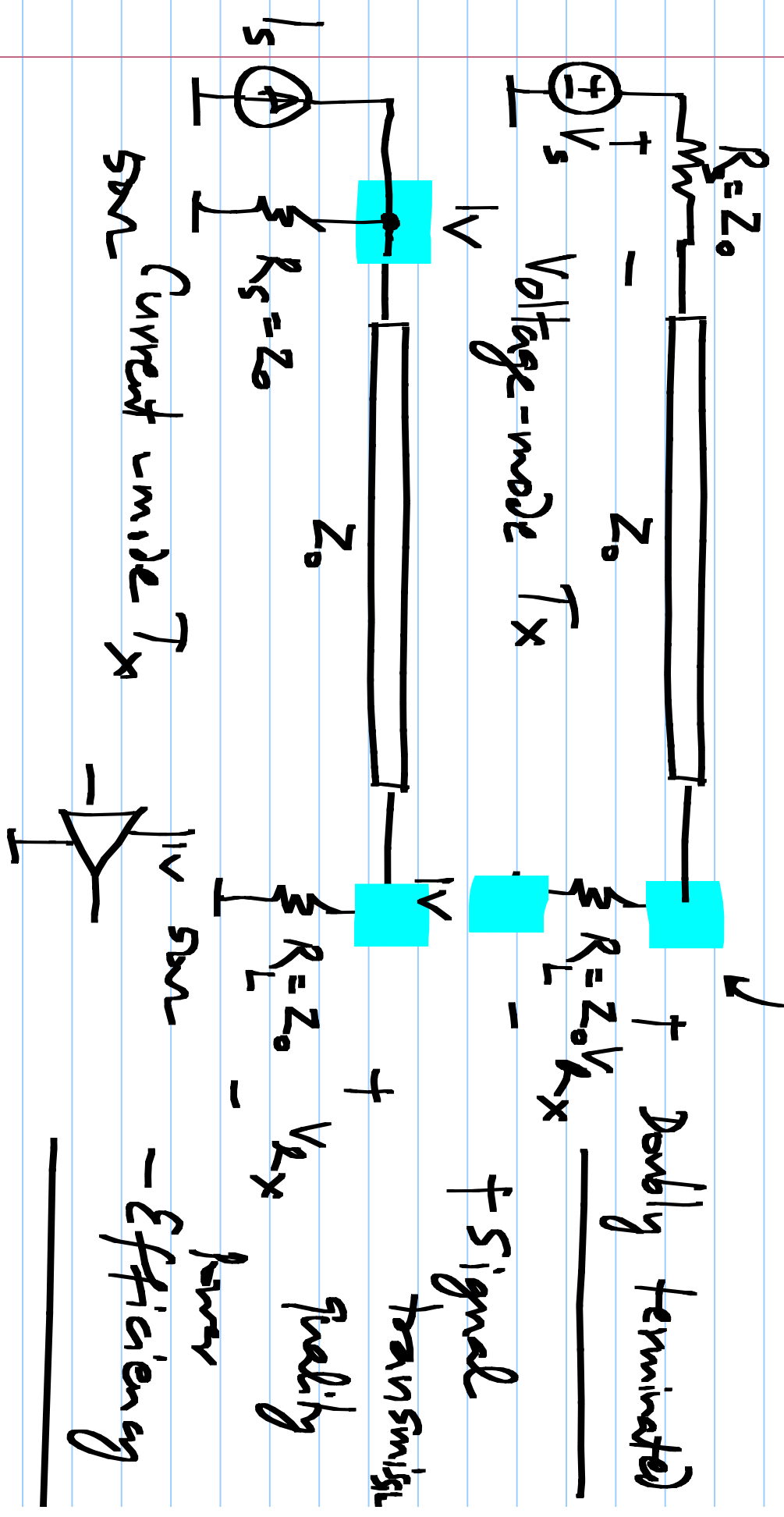


EE 6322

Transmitter circuits

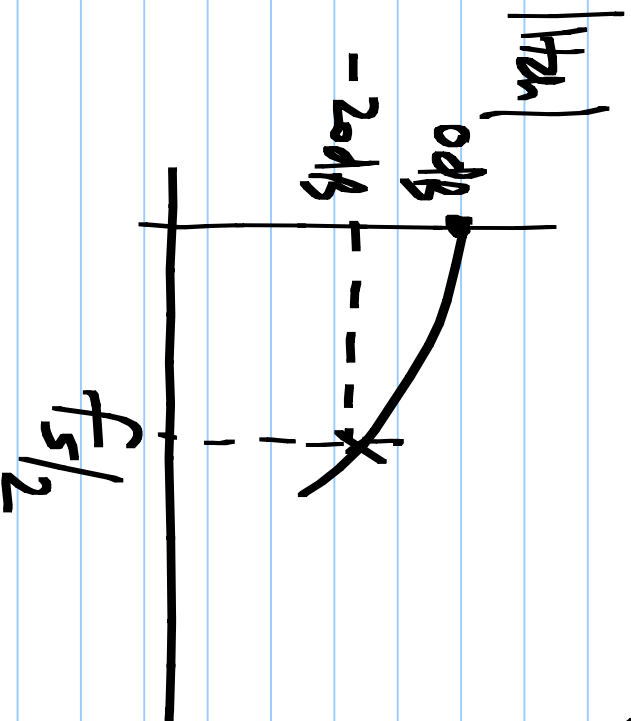
~ 1005 mV

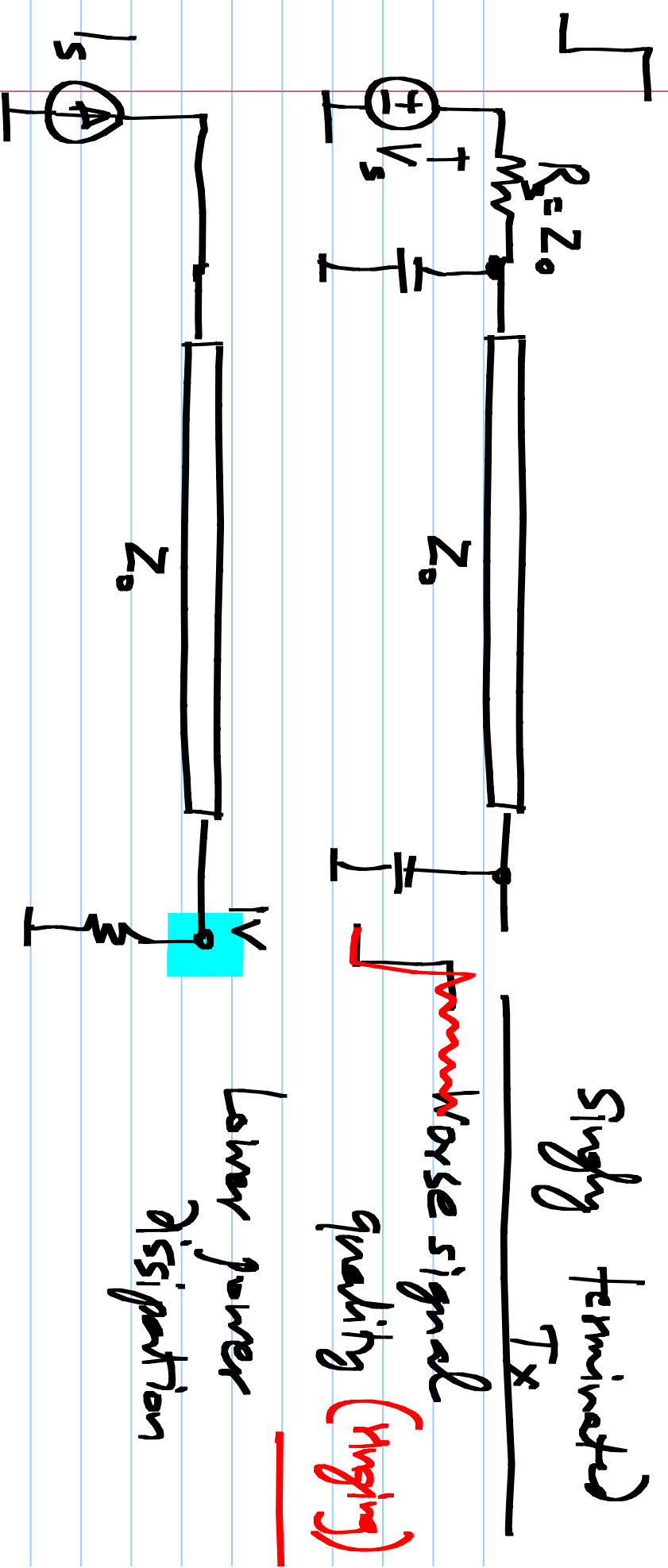
18/4/2018

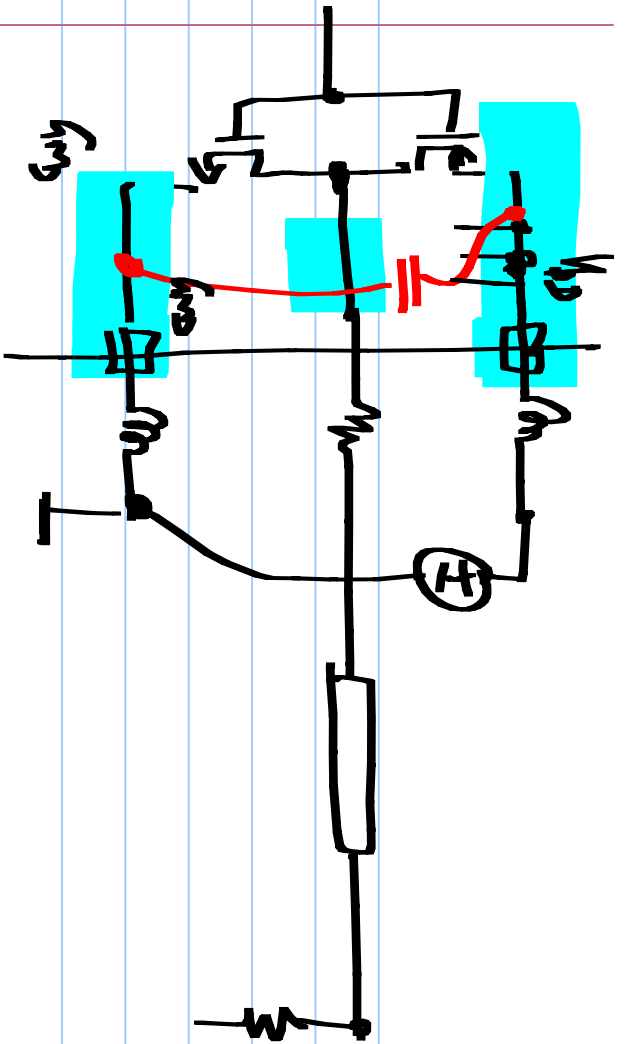
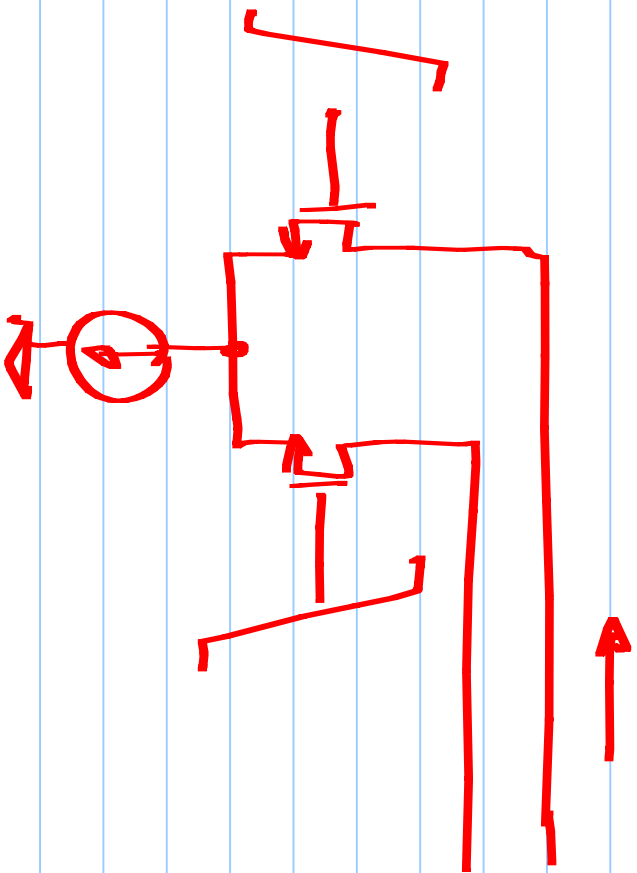


Efficiency

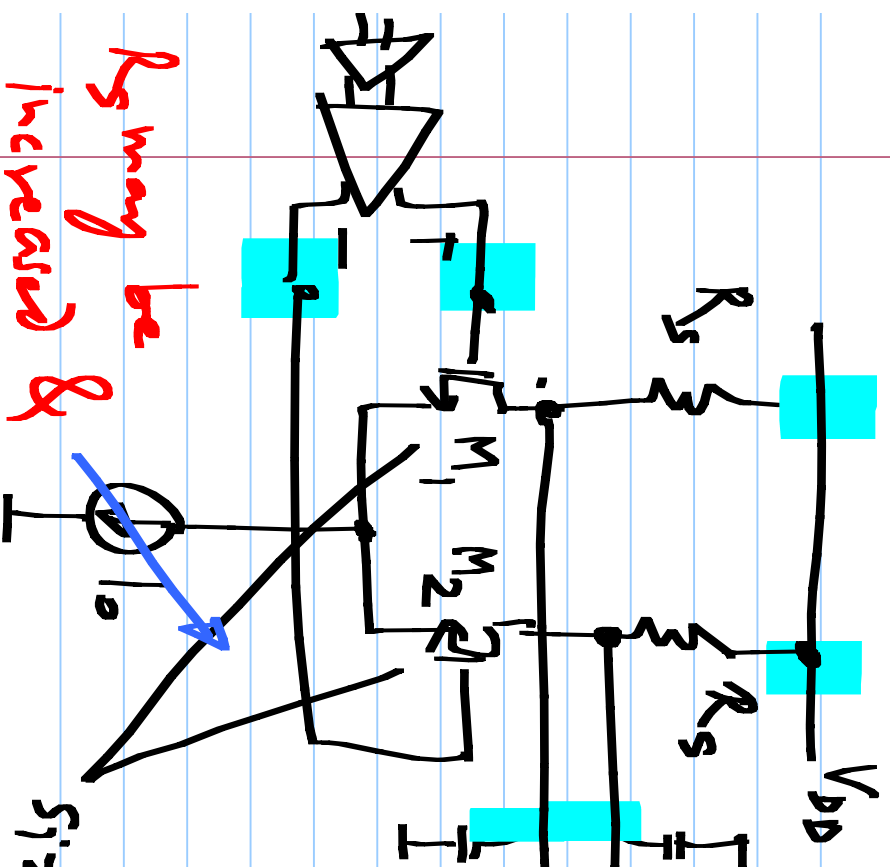
$$P_d / \text{Data rate (b/s)} = \frac{\text{Energy}}{\text{bit}} \approx \text{pJ/bit}$$





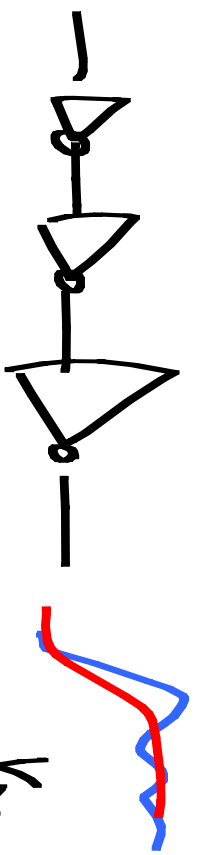


Current mode TX:



R_S may be increased & I_o decreased to save power while maintaining good hf performance

size $M_{1,2}$ to $200\mu\text{V}$; $R_2 = 50\Omega$

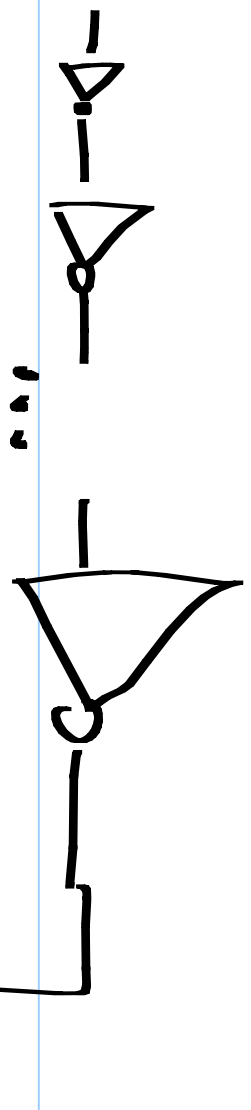
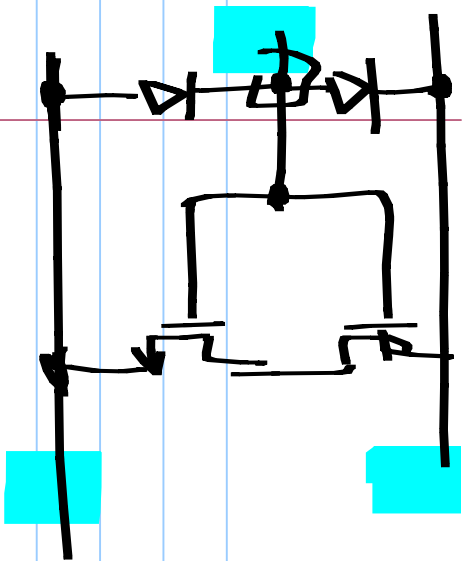


$$R_L = R_S = Z_0$$

$$R_S \approx R_S \quad R_L = R$$

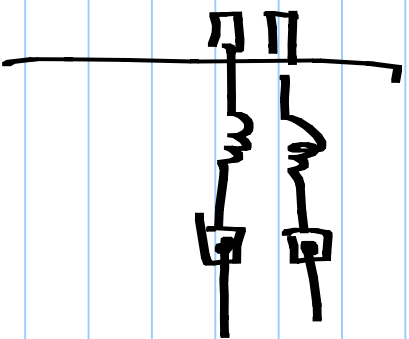
$$V_{X1} = \pm I_o (R_S \parallel R_L)$$

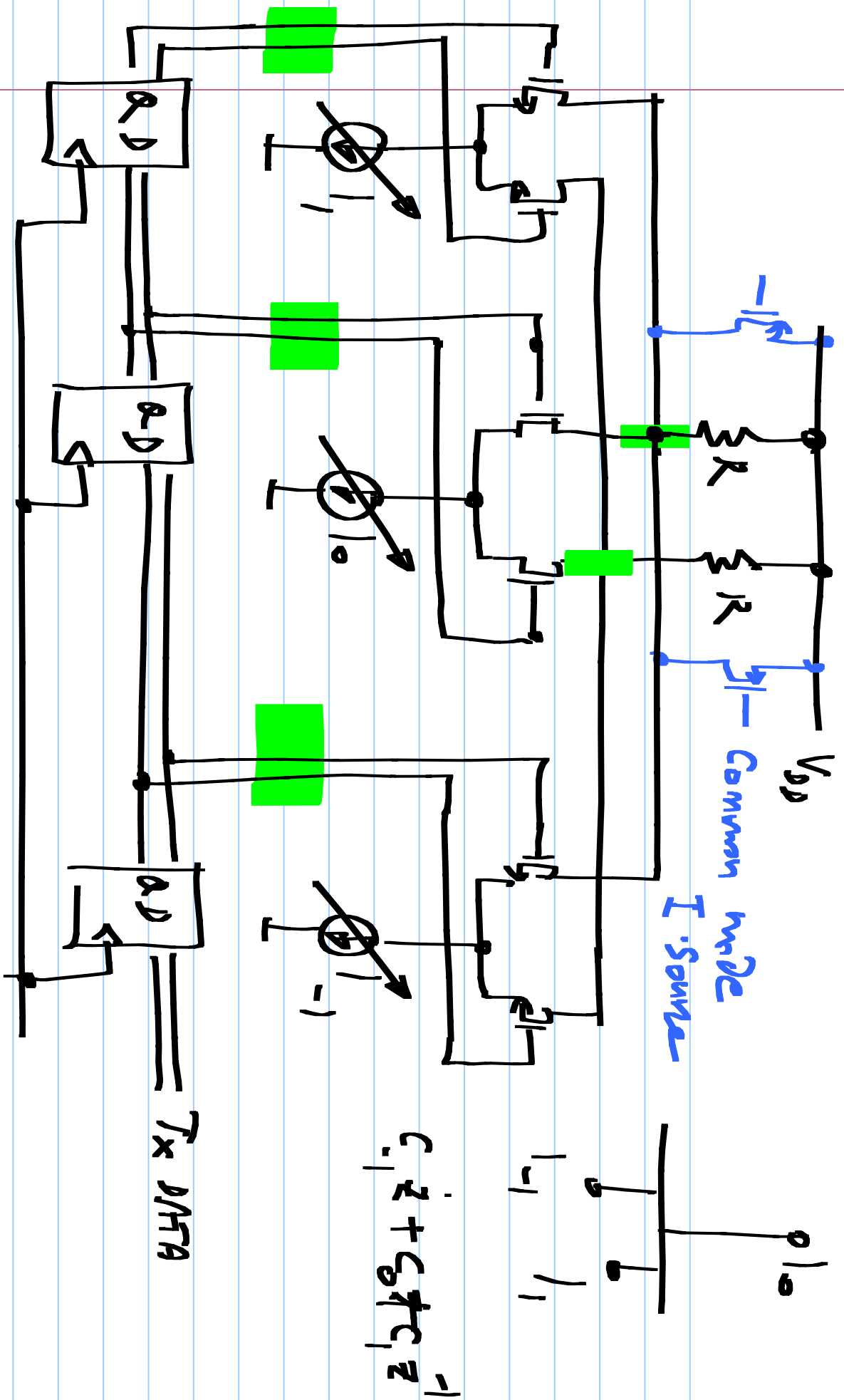
$$R_S \approx R_S \quad R_L = R$$



$$V_{Dp} + 0.7$$

$$V_{Ss} - 0.7$$





$$C_{-1} Z + C_0 Z^{-1}$$

$Tx DATA$