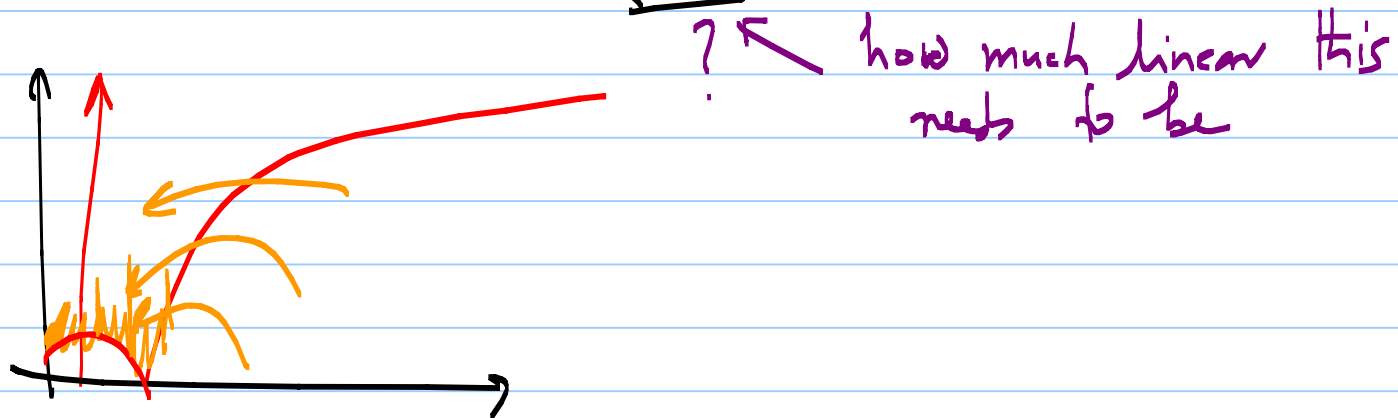
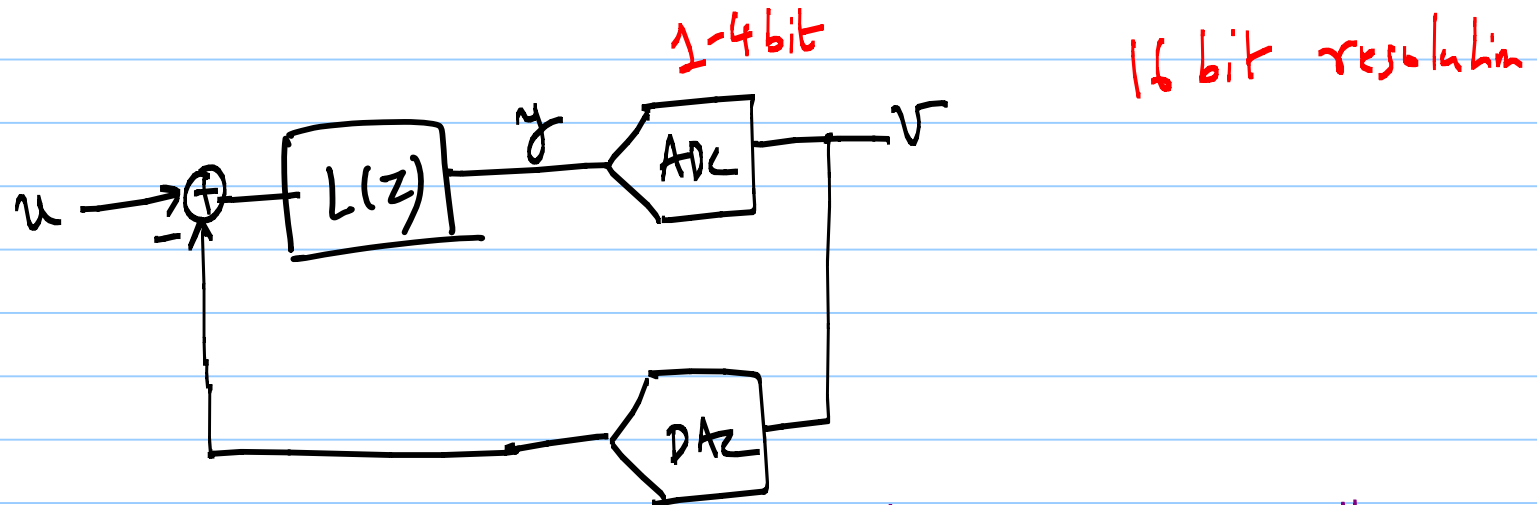
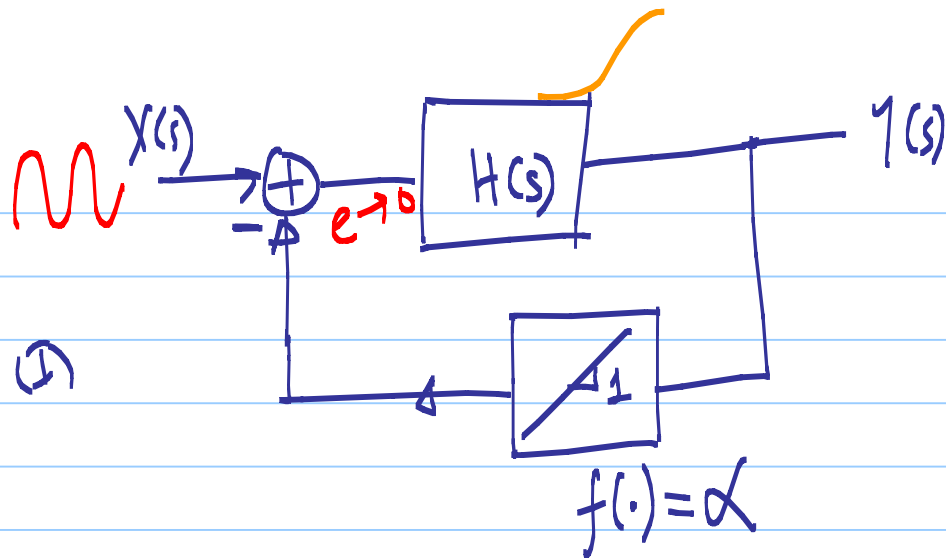


ECE 615 - Lecture 24

Note Title

12/5/2013



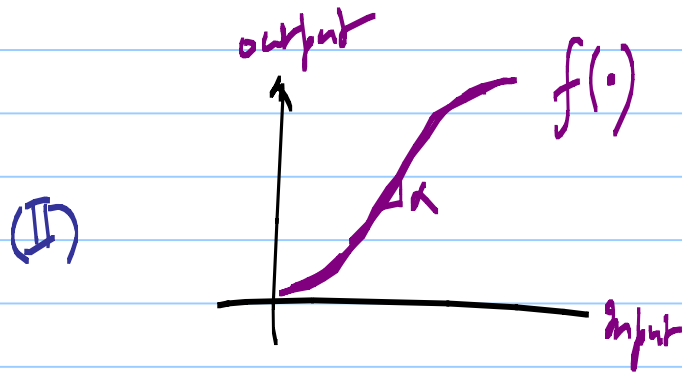


loop gain $\gg 1$

$$Y(s) = \frac{H(s)}{1 + \alpha H(s)}$$

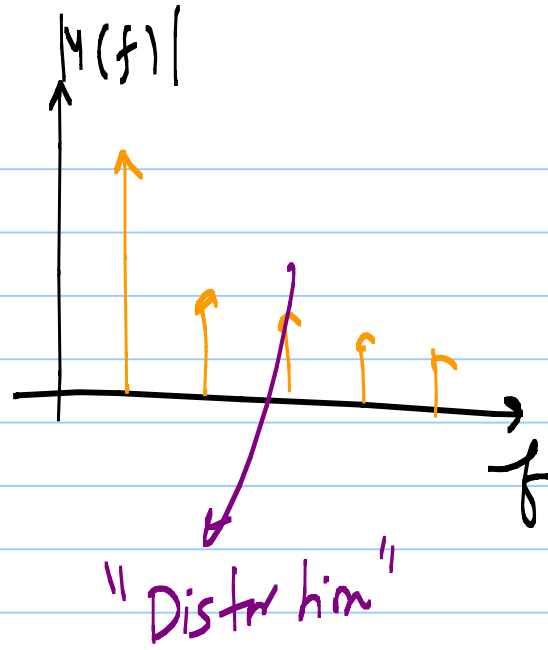
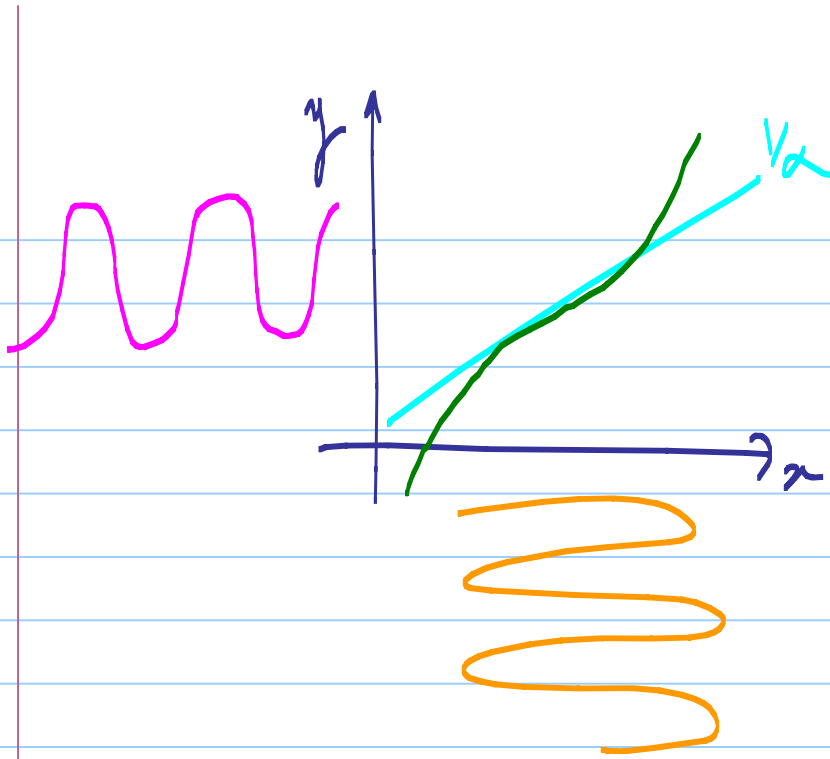
$$= \frac{1}{\alpha + \frac{1}{H(s)}} \approx \frac{1}{\alpha}$$

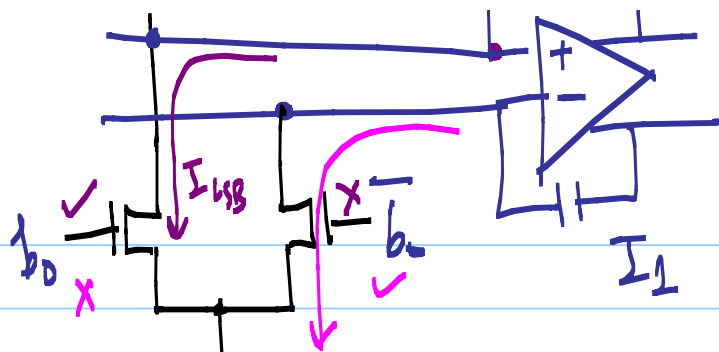
$$\Rightarrow y(t) \approx \frac{1}{\alpha} x(t)$$



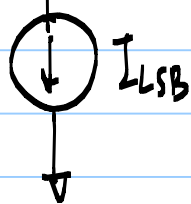
$$\Rightarrow e = x(t) - f(y(t)) \rightarrow 0$$

$$\Rightarrow y(t) = f^{-1}(x(t))$$

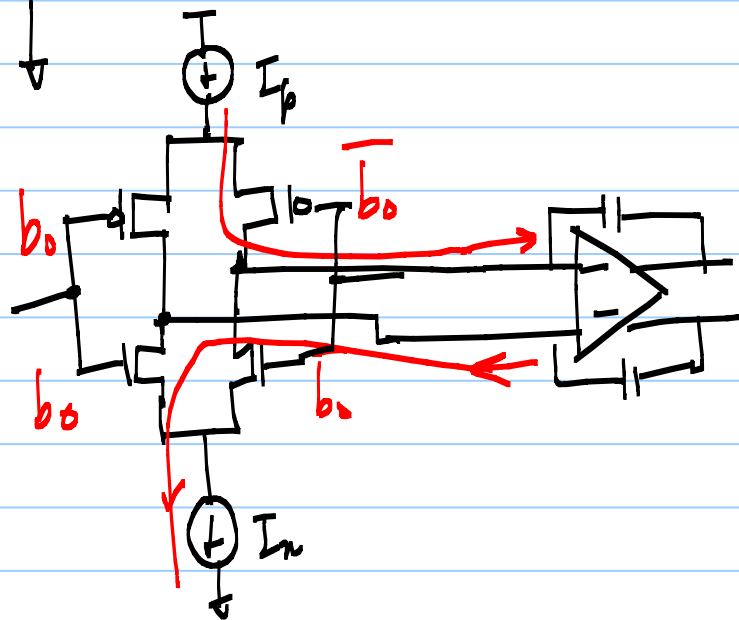




$$b_0 = 1 \Rightarrow \bar{b}_0 = 0$$

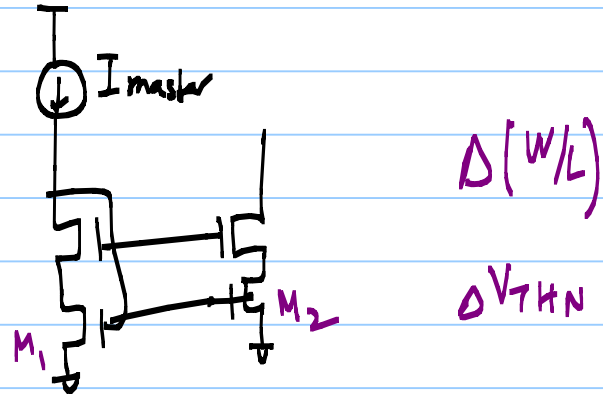
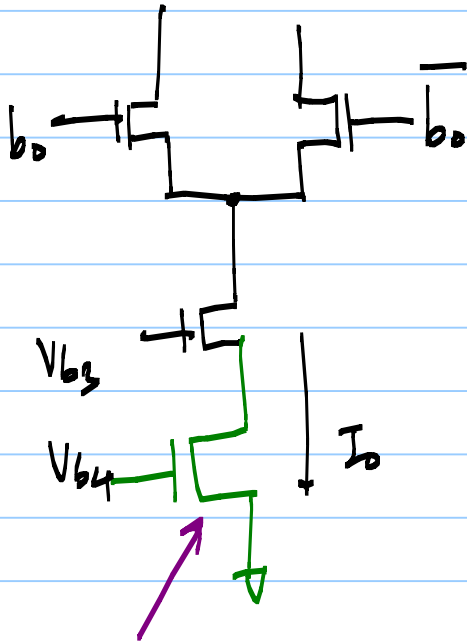


Current
Steering
DAC



4bit DAC

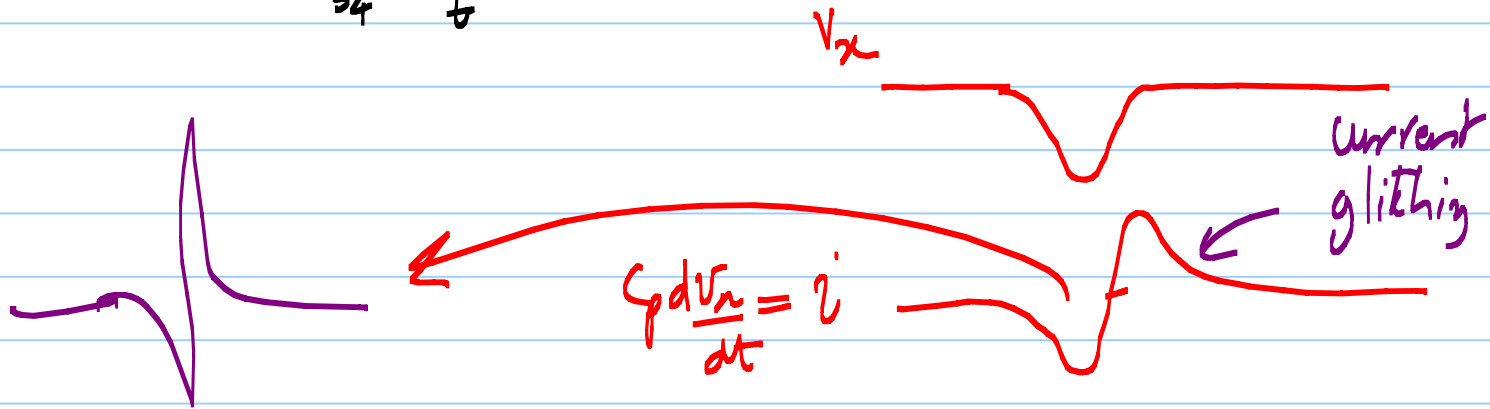
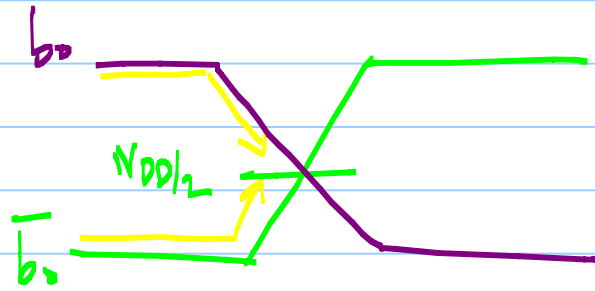
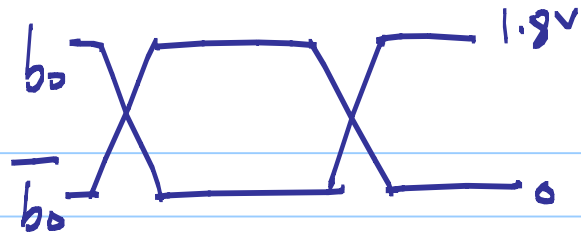
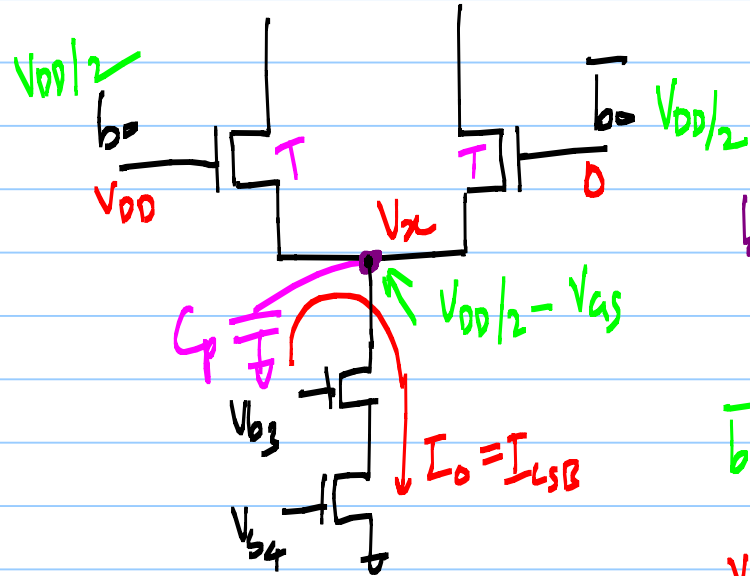
I_0 to I_{15}

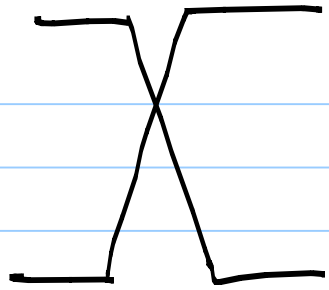


Large WL Area for reducing mismatch

$$\sqrt{\Delta V_{THN}} \propto \frac{1}{\sqrt{WL}}$$

$$\frac{\Delta(W/L)}{(W/L)} \propto \frac{1}{\sqrt{WL}}$$





high crossover inputs to drive the
DAC LBB



"Data Conversion Fundamentals"
Gustafsson