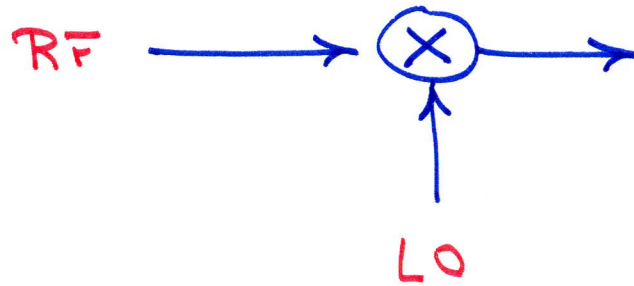


## Mezcladores

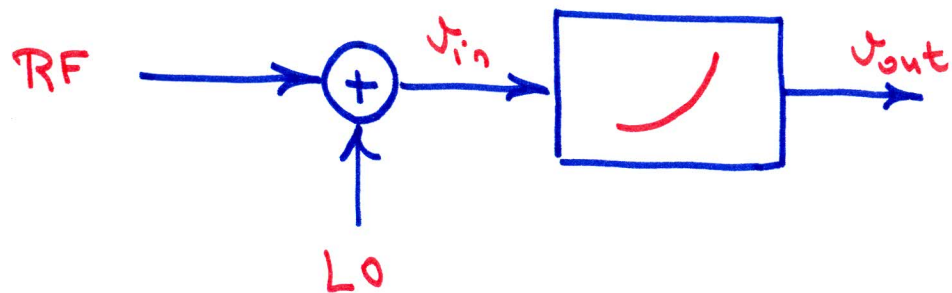


$$\frac{AB}{2} \cos(\underbrace{\omega_{RF} - \omega_{LO}}_{\omega_{IF}})t + \frac{AB}{2} \cos(\omega_{RF} + \omega_{LO})t$$

$$\begin{cases} RF = A \cos \omega_{RF} t \\ LO = B \cos \omega_{LO} t \end{cases}$$

Ganancia de conversión

$$G_c = \frac{P}{N}$$



$$V_{out} = C_2 V_{in}^2$$

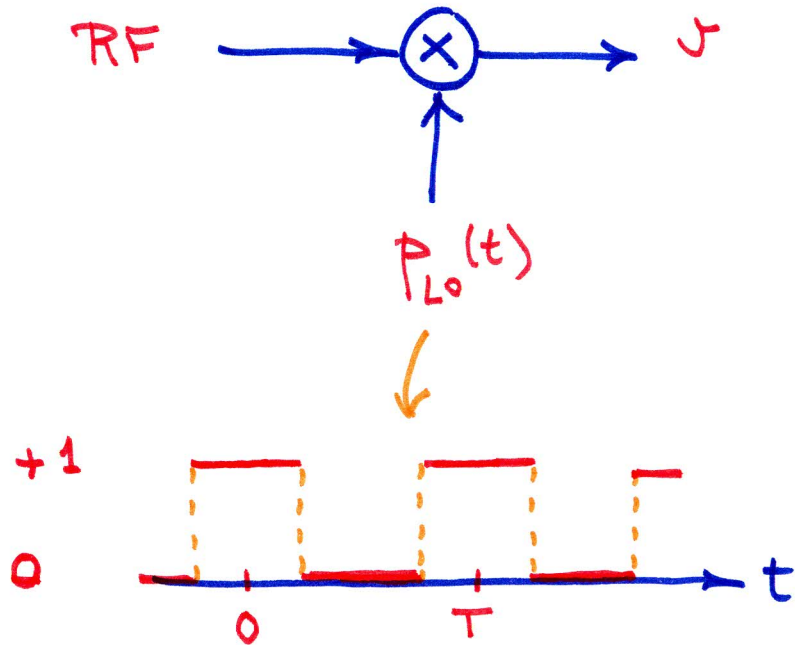
$$V_{out} = C_2 RF^2 + C_2 LO^2$$

$$+ C_2 AB \underbrace{\cos(\omega_{RF} - \omega_{LO})t}_{\omega_{IF}} + C_2 AB \cos(\omega_{RF} + \omega_{LO})t$$

Ganancia de conversión

$$G_c = C_2 B$$

## Mezcladores con interruptores



$$\omega_{L0} = \frac{2\pi}{T}$$

- $p_{L0}(t) = \frac{1}{2} + \frac{2}{\pi} \cos \omega_{L0} t - \frac{2}{\pi} \frac{1}{3} \cos 3\omega_{L0} t + \dots$

- $V(t) = \frac{1}{2} RF + \frac{2}{\pi} RF \cdot \cos \omega_{L0} t + \dots$

Ganancia de conversión

$$G_c = \frac{1}{\pi}$$