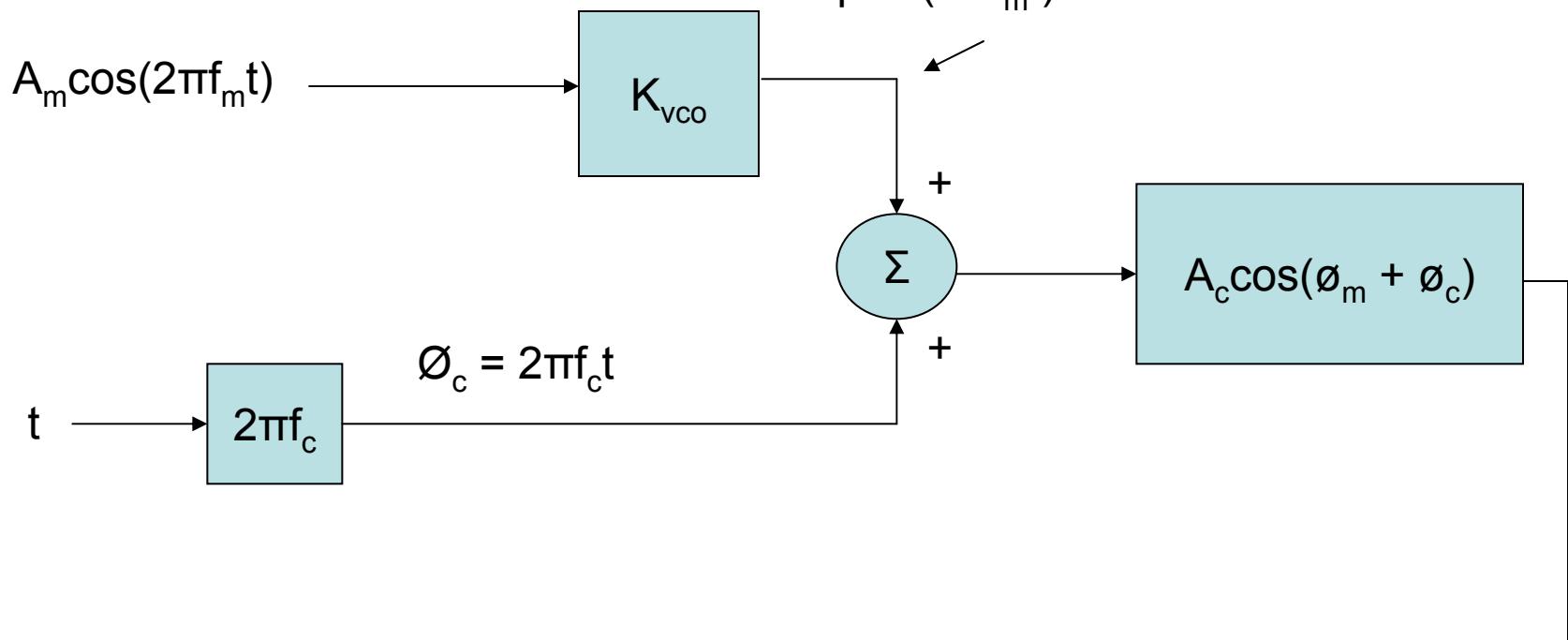


FM Modulation

One-Tone Sinusoidal Modulation

$$K_{vco} = 5\text{KHz/V} = 2\pi(5 \text{ KHz}) \text{ rad/V-sec} = \phi_m/\text{V-sec}$$

$$\phi_m = (A_m K_{vco}/f_m) \sin(2\pi f_m t) = \beta \sin(2\pi f_m t)$$



$x_{fm}(t) = A_c \cos[(2\pi f_c t) + \beta \sin(2\pi f_m t)]$ = link pdf file $x_{fm}(t)$ expression with the summation of J_n terms

because $\beta = A_m K_{vco}/f_m$