Non coherent FSK

For non-coherent FSK the transmitted sigs are

$$s_0(t) = A\cos(2\pi f_c t + \theta)$$

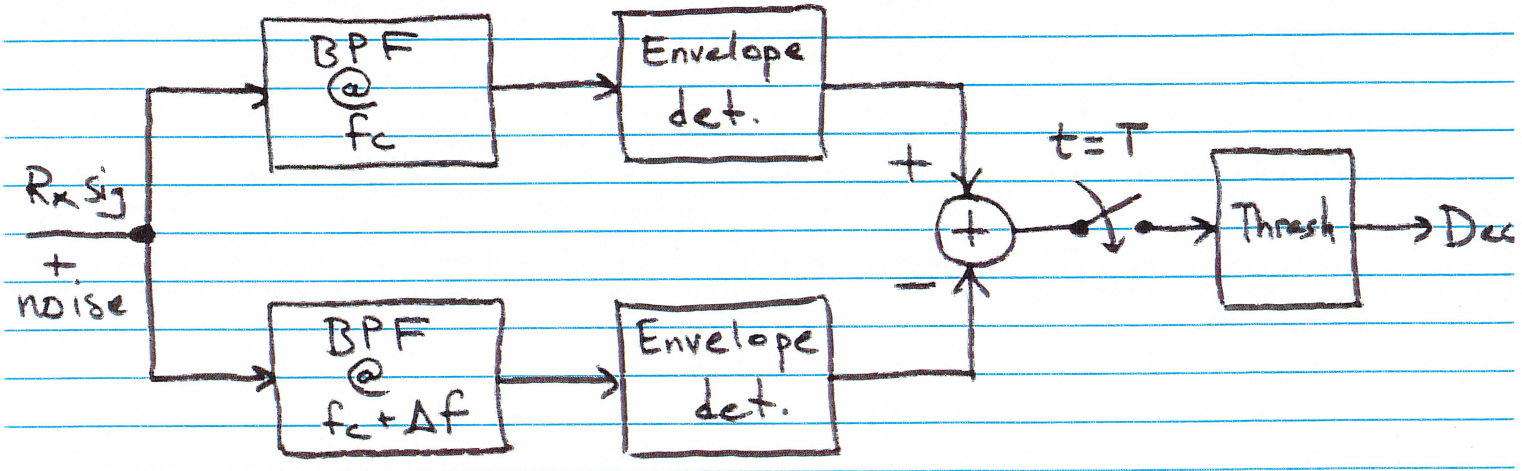
vs.

$$s_1(t) = A\cos(2\pi(f_c+\Delta f)t + \theta) \qquad 0 \le t \le T$$

where:

- θ is unknown representing the non-coherent assumption
- Δf is suff. large that there is little spectral overlap between the two signals

Receiver for Noncoherent FSK



- There are two parallel receivers for non-coherent ASK
- P_e analysis similar to that for ASK

P_e formula for Non-coherent FSK

Z+T give the bit error probability formula as ...

$$P_e = \frac{1}{2} \exp\left(-\frac{A^2}{4N_0 B_T}\right)$$

assuming

- Equally likely signals
- AWGN of psd height $N_0/2$
- Transmission BW of B_T