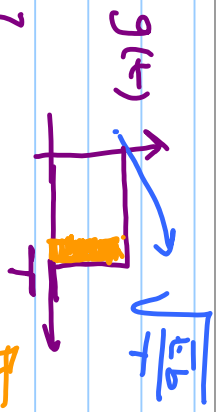
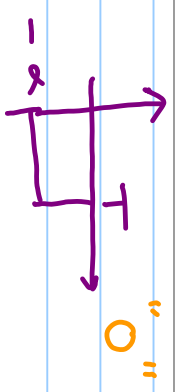


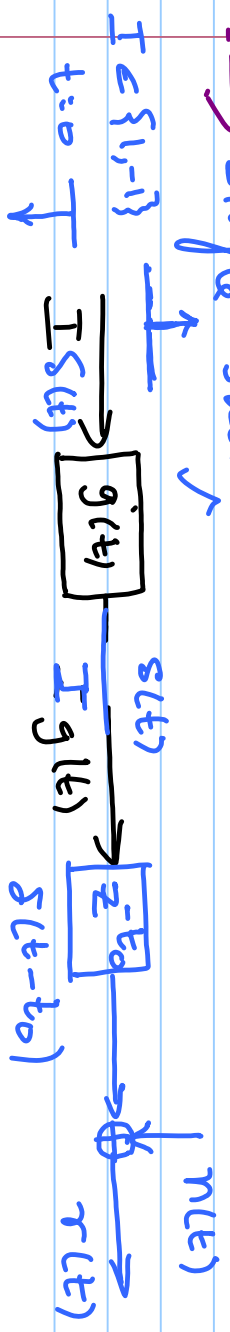
$s(t) = I g(t)$ , where  $I \in \{+1, -1\}$



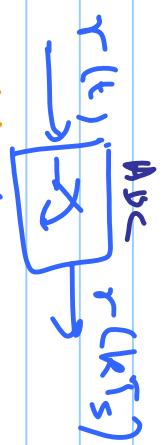
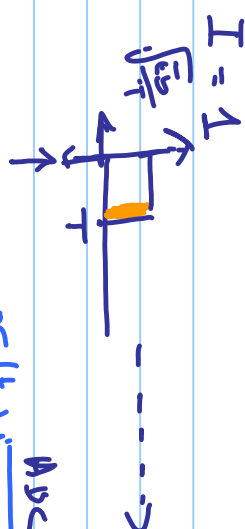
$\int_0^T g^2(t) dt = E_b$  Joules  $\leftarrow E_b$  Joules per bit  
 digital

$\left\{ \begin{array}{l} 2 \text{ symbols} \\ "0" \end{array} \right.$

"Single-shot communication"



$r(t) = s(t - t_0) + n(t)$   
 Additive white WSS process  
 "infinite variance"



$n(t) \rightarrow$  not band. limited  
 $g(t) \rightarrow$  also not B.L.

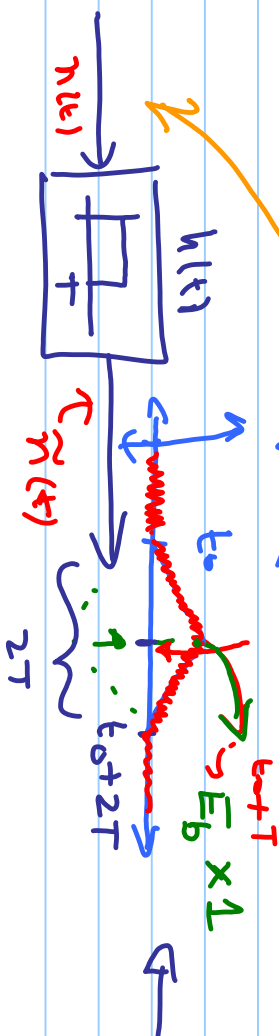


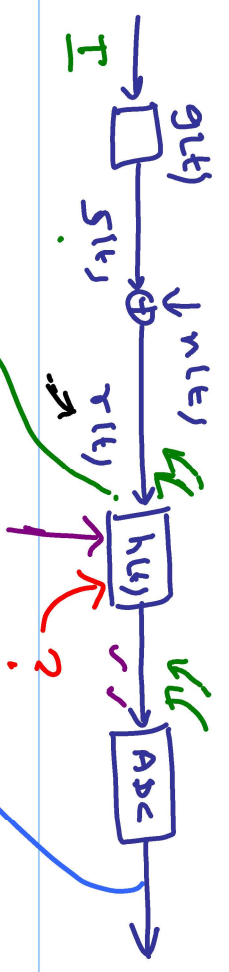
$r(kT_s) \approx \epsilon$

sign( $r(kT_s)$ )



$T_s = \frac{T}{5}$

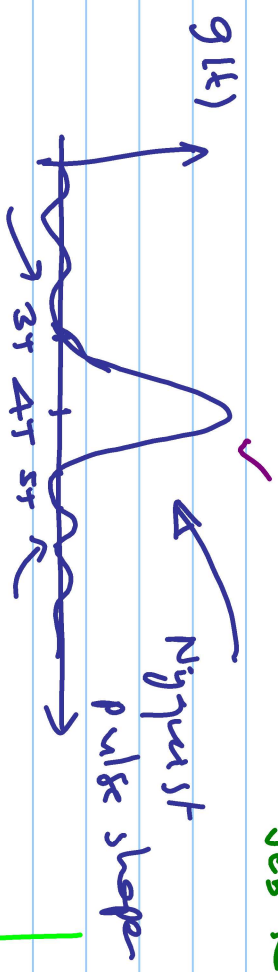
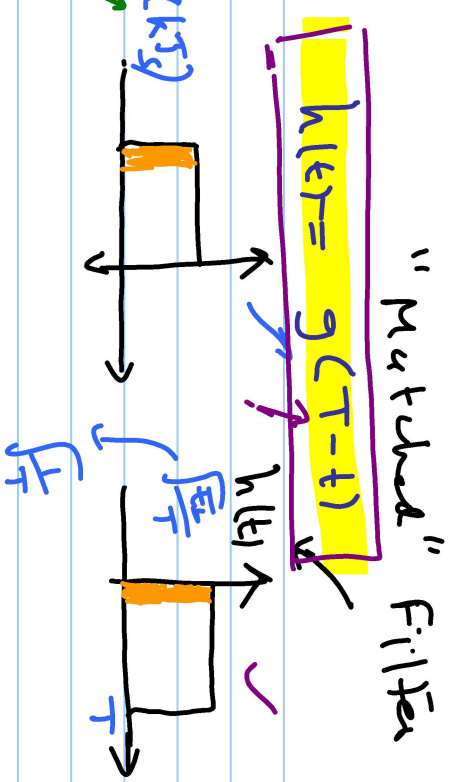




$$SNR = \frac{(\cdot)}{\sigma}$$

$$r(kT_s) = E_b \cdot 1 + \tilde{n}(kT_s)$$

$$\sqrt{E_b} \cdot \kappa$$



Proakis & Salehi  
2006

ps. 400/401

Matched filter

