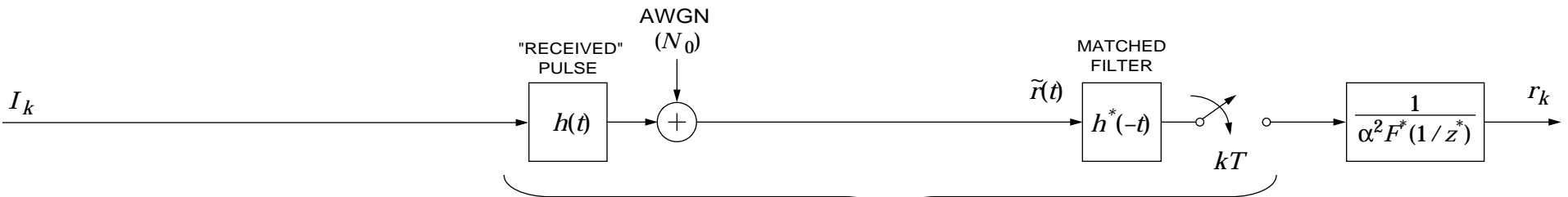
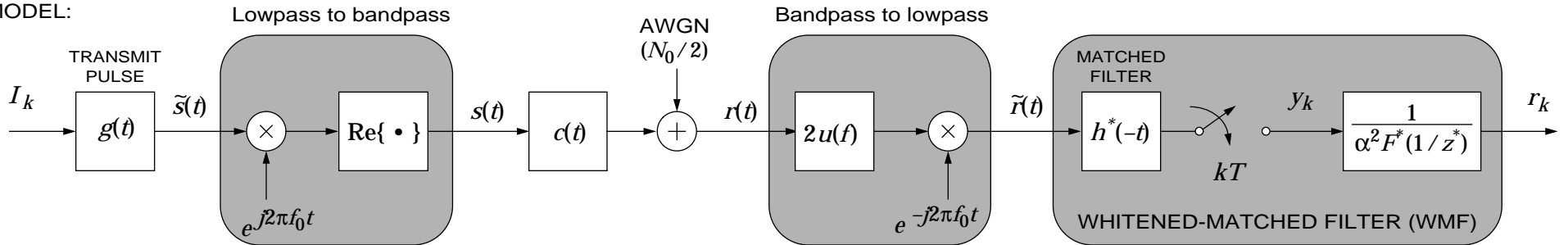
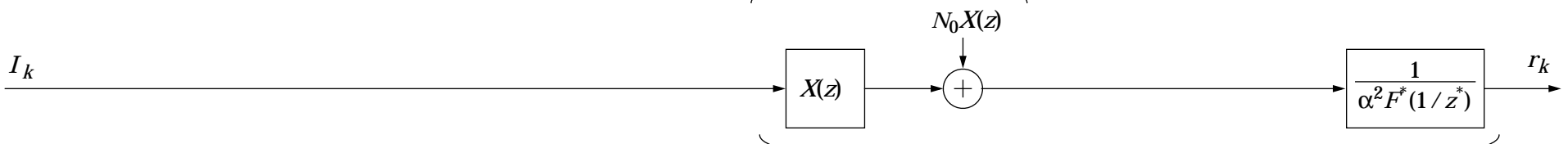


The Whitenened-Matched Filter Channel Model

ORIGINAL
PASSBAND
MODEL:



THE SMF CHANNEL MODEL



THE WMF CHANNEL MODEL

DEFINITIONS:

- $g(t)$ = transmit pulse shape
- $c(t)$ = impulse response of passband channel
- $\tilde{c}(t)$ = complex envelope of $c(t)$, lowpass
- $h(t) = g(t) * \tilde{c}(t)$ = received pulse shape

- $p(t) = h(t) * h^*(-t)$ = autocorrelation function = "overall" pulse shape
- $x(k) = x(kT) = \langle h(t + kT), h(t) \rangle = \alpha^2 f_k * f_{-k}^*$ = sampled autocorrelation function of received pulse shape
- $X(z)$ = folded spectrum = Z-transform of $x(k)$
- $F(z)$ = minimum-phase factor in factorization $X(z) = \alpha^2 F(z) F^*(1/z^*)$