Segnali modulati

Modulazioni analogiche

AM-classica	$s(t) = [1 + k_a m(t)] A_c \cos(2\pi f_c t)$
AM-DSB	$s(t) = m(t) A_c \cos(2\pi f_c t)$
AM-SSB	$s(t) = m(t) A_c \cos(2\pi f_c t) - \hat{m}(t) A_c sin(2\pi f_c t)$
FM	$s(t) = A_c \cos\left(2\pi f_c t + 2\pi k_f \int_{-\infty}^{t} m(u)du\right)$
PM	$s(t) = A_c \cos(2\pi f_c t + k_p m(t))$

Modulazioni digitali

M-PAM	$s_k(t) = [2k - (M+1)]\sqrt{\frac{E_g}{T}} rect\left(\frac{t - T/2}{T}\right) \qquad k = 1...M$
M-ASK	$s_k(t) = [2k - (M+1)]\sqrt{\frac{2E_g}{T}} \cos(2\pi f_c t) rect\left(\frac{t - T/2}{T}\right) \qquad k = 1...M$
M-QAM	$s_k(t) = [2k - (\sqrt{M}+1)]\sqrt{\frac{2E_g}{T}} \cos(2\pi f_c t) rect\left(\frac{t - T/2}{T}\right) + [2k - (\sqrt{M}+1)]\sqrt{\frac{2E_g}{T}} sin(2\pi f_c t) rect\left(\frac{t - T/2}{T}\right)$ $k = 1...\sqrt{M}$
M-PPM	$s_k(t) = \sqrt{\frac{ME_s}{T}} rect\left(\frac{t - T/2M - k\,T/M}{T/M}\right) \qquad k = 0...M-1$
M-FSK	$s_k(t) = \sqrt{\frac{2E_s}{T}} \cos\left(2\pi f_c t + 2\pi \frac{k}{2T} t\right) rect\left(\frac{t - T/2}{T}\right) \qquad k = 0...M-1$
M-PSK	$s_k(t) = \sqrt{\frac{2E_s}{T}} \cos\left(2\pi f_c t + 2\pi \frac{k}{M}\right) rect\left(\frac{t - T/2}{T}\right) \qquad k = 0...M-1$