

Quadrature Amplitude Modulation / (Quadrature Multiplexing)

Amplitude modulation of a signal with bandwidth $B=5\text{kHz}$, with a carrier at frequency, F_c , produces a bandlimited signal from frequency F_c-B to F_c+B , i.e. a bandwidth of $2B$. Hence bandwidth of $2B$ is required to transmit a signal of bandwidth B . With QUADRATURE AMPLITUDE MODULATION, we use orthogonal carriers to modulate TWO signals of bandwidth B onto the same carrier/

