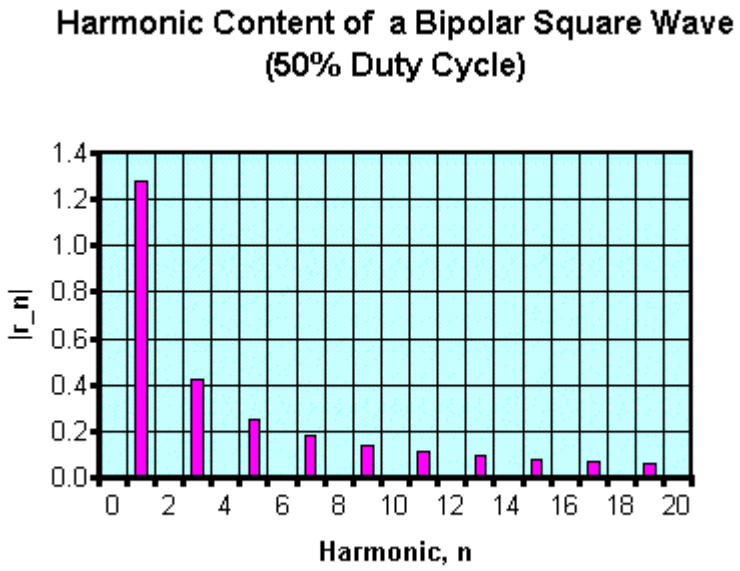
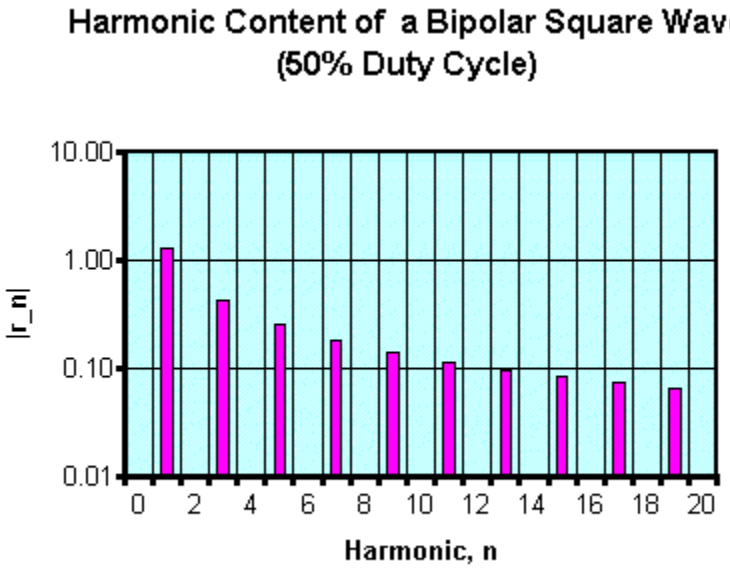
The amplitudes, $|r_n| = (a_n^2 + b_n^2)^{½} = 4/n\pi$ for the first twenty harmonics (i.e. $n < 20$) associated with the periodic, bipolar, 50% duty-cycle, unit amplitude square wave are shown in the figure below:



The following figure shows the same information as above, except that it is shown as a *semi-log* plot:



As can be seen from the above figures, in addition to the fundamental, at frequency, *f*, only the *odd* harmonics, at frequencies 3*f*, 5*f*, 7*f*, 9*f*, ... etc. contribute to creating this waveform.