

# Magic Sinewave Fourier check plot

**Don Lancaster**  
**Senior Product Development Engineer**  
**Synergetics, Box 809, Thatcher, AZ 85552**  
<http://www.tinaja.com>  
[don@tinaja.com](mailto:don@tinaja.com)  
**(928) 428-4073**

The Fourier check plot shown below verifies some of the **Magic Sinewave** math on an 0.53 amplitude Delta Friendly **MS28NDX Magic Sinewave**. It takes the results of the JavaScript calculator and then runs them "backwards" into their individual **Fourier Series** plots.

The magenta plots are the exact waveform per the starting and ending angles. The orange plot is of the first 22 harmonics and is identical to the fundamental. The red plot is of the first 44 harmonics. The black plot is of the first 510 harmonics.

Note that the "pointy haired boss" or "ears" effect is normal and expected on a truncated Fourier series. These artifacts reduce in amplitude as additional terms are added.

Sourcecode is available as **PLOT28ND.PSL**. Additional assistance is [available here](#).

