



Waveform Success Story

Number 002

Test: Simulation of Positioning Signals for Auto Test System

Industry: Navigation Systems

Unique Requirements: Low-Level Test Signal with Minimal Noise Floor

A Scientist invested several months searching, without success, for an instrument that could perform to his requirements. Then he found TEGAM. The task required replacement of a discontinued Agilent/Hewlett Packard Model 8904 multi-function waveform synthesizer in a test system for Sonar-Based Telemetry Systems. After months of searching and evaluating, the gentleman realized that he needed to specify his requirements in terms of the required waveform instead of the Model 8904 specifications. Through trial and error he had a good idea of the waveform that he was looking for.

He specified the need for a true arbitrary waveform generator with an isolated output and the capability of producing a variable, 5kHz sine wave at levels to the microvolt range. He also requested that some actual spectral purity, (harmonic distortion and noise) measurements be taken at or around 5kHz, at various low voltage levels, to verify the instrument's performance. He explained that after numerous disappointing evaluations of competitor arbs, it would be more efficient to have us to verify the instrument at TEGAM *before* sending a demo to him. We understood that he had already invested countless hours evaluating other models, so we agreed to perform the series of special tests.

In order to reach the low signal levels, we used a calibrated attenuator at the output. We also optimized the instrument settings to maintain a low noise floor by maximizing the output signal and taking advantage of the large waveform memory (160k) of the 2414B. The required series of approval tests were performed and the 2414B passed with flying colors! We then notified the customer of our findings and he requested a demo unit for further testing. Two weeks later we received word that the unit passed the customer's additional tests and that the product was approved for immediate purchase!

Several units were sold initially and we continue to book additional units. Through post-sale discussions, we have learned that this particular test was only the tip of the iceberg and that because of the 2414B's high performance; this customer has several other potential applications for TEGAM arbs. We were happy to hear this and suggested that perhaps he could make up some of his lost time by coming to us first next time! "This time TEGAM arbs will be considered first" he stated.

TEGAM was able to win this customer's confidence by offering a superior instrument at a very competitive price and by backing our product with our outstanding technical support. TEGAM took the initiative to take our technical support a step further and to perform the customer's initial approval tests for him. This turned into a great sales opportunity, because we proved that our products would perform to his high standards, won the customer's confidence and created a long-term relationship. When choosing an AWG, noise floor is usually not a specification that customers define up front but, when noise floor is important, no other arb can match TEGAM's.

Focus on the Waveform, not the Box