Signal source produces arbitrary and DDS waveforms

D Sargent - May 12, 2010

The ArbStudio puts LeCroy back in the waveform-generator game, and it's the company's first PC-based signal source. Available with either two or four 16-bit analog channels, the ArbStudio has a bandwidth of 125 MHz with 1 Gsample/s sampling. Two more models (two analog/18 digital channels and four analog/36 digital channels) complete the series. The digital channels product patterns at up to 250 Msamples/s. All analog and digital channels have 2 Msamples of waveform memory.

With the ArbStudio, you can program any analog channel to operate as either an arbitrary function generator or as a DDS (direct digital synthesis) generator. The arbitrary function lets you program any waveform that you can build through included software, or you can import a waveform from a spreadsheet or other math software. You can also import waveforms from LeCroy oscilloscopes. Thus, you can build a library of waveforms. You can use the included software to load waveforms, or you can develop your own software. Drivers are available for C++ and LabView.

As a DDS signal generator, the ArbStudio can produce waveforms such as sine, cosine, triangle, rectangle, sawtooth, ramp, pulse, sinc, exponential, sweep, DC, and noise. Modulated waveforms include AM, FM, ASK, FSK, or PSK. A PWM (pulse-width modulation) mode lets you generate waveforms to test motors, fans, or LEDs. The software lets you create waveforms through an interface that uses virtual knobs.

Prices range from $2490 for two analog channels to $4990 for four analog+36 digital channels. LeCroy, www.lecroy.com/arbstudio.