



By Bob Stasonis

# Random thoughts on AUTOTESTCON

**W**ell, another trade show is over. AUTOTESTCON, the premier show in North America for military and aerospace test technology, and the de facto home of the PXISA annual meeting, was by all accounts a great success. Many PXISA members exhibited, and those that did not received honorable mention through references to them at the PXISA booth. Many new ideas were shown that are pushing the PXI architecture to new levels. I don't have a lot of space to discuss, but let me highlight a few:

- *Breaking the speed barrier* – Companies like Ascor and Acqiris are showing that the 3 GHz limit of most high frequency instruments in PXI is only temporary. Acqiris demonstrated digitizers with up to 8 GSps at 10-bit resolution and Ascor showed a 6 GHz up-converter.
- *Power to the laptop* – The size of PXI always made it a natural for remote testing, such as data acquisition of an automobile as it is being driven on a test track. But in the past, connection from a PXI chassis to a laptop for data analysis was difficult and expensive. National Instruments released an MXI adapter for both PCMCIA and CardBus based laptops. So there is no need for an both embedded PC and a laptop for portable applications.

show how chassis and modules can be built to be compatible with both regular PXI and PXI Express.

- *Local intelligence* – Early PXI relied on the PCI bus to get raw data back to the PC for processing. Fine for one or two modules, but painful if many processes want to use the bus simultaneously. Well, it appears that technology is catching up with the needs of PXI users. Companies like Acqiris and National Instruments demonstrated several modules that did local DSP processing on the fly and presented the end result to the screen, saving a bunch of bandwidth for other things.
- *LXI with PXI?* – I know, what's LXI being mentioned here for? Actually, in this case, it's a PXI implementation by Pickering Interfaces using LXI as the connection to the PC interface. I admit it's a clever way to build a product with a large range of options very quickly.
- *More PXI in more places* – Not only was there a good number of PXISA members exhibiting, but I noted PXI on the stands of many integrators and some defense related companies.
- *Working together* – All PXISA members talk interoperability. But it's even better when they show it. In many booths, I noticed products from multiple vendors in a test system. For example, National Instruments showed Ascor and Pickering products in their demonstrations. It's always great to see PXISA members *play nice* with each other.
- *Connectors and cables* – Now, this is not necessarily the domain of PXI, but I thought it was an important point to bring up. After switching, cabling to the unit under test is usually the last thing to be considered in developing a test system. After all, it's just wire and connectors, right? As they say in a famous commercial *not exactly*. Hypertronics spent a great deal of time explaining to me the issues of reliability of connectors (I thought fretting had to do with playing guitar. Actually, it relates to wear and corrosion of connector pins and sockets), selecting the right current ratings of the wires and connectors, and so on.

“ All PXISA members talk interoperability. But it's even better when they show it. ”

- *PXI Express* – There were no products on the show floor as of yet. But that did not dampen enthusiasm for the new extension of the standard. There was a session in the conference on PXI Express that was well attended. NI had a simple mechanical demo to

As you can see, there were lots of new ideas and technology demonstrations on the show floor. While I did not attend the conference portion of AUTOTESTCON, many of the papers I read talked up PXI in new and expanded ways. There was a strong sense of member participation and the need for creating more customer awareness and education in the PXISA annual meeting. So, looking forward, I see new opportunities for PXI, and an easier job of integration and test for our readers!