

# EE

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## Emphasizing switching and support

by Rick Nelson, Executive Editor

“Pickering is about switching,” said Bob Stasonis, director of sales and marketing at Pickering Interfaces. “We are involved in switching on almost every platform you see in test. Our history goes back to the 1960s when we started building relays.” The company, he said in an interview at Autotest in St. Louis in September, also focuses on the related field of resistive sensor emulation.

With a focus on switching, he said, the company’s goal is to offer so much variation that competitors can’t keep up. Managing director Keith Moore, Stasonis said, refers to Pickering’s strategy as “mass customization.” A competitor, Stasonis said, may have one switch card that does one thing very well, but Pickering will offer 10 variations that more closely meet customer needs. “We now provide more than 1,000 choices in PXI alone,” he said.

The downside, he added, is that with so many choices, it can be difficult for customers to pick the optimum solution. “That’s the thing we are working on now,” he said at Autotest, “and I hope that next year I’ll be able to show you how we are making the selection process easier.”

Pickering, Stasonis said, serves a variety of industries where accuracy is critical. Pickering equipment is not likely to be found testing consumer devices like cellphones or tablets, he said, but it will be found in communications applications such as cell towers and ZigBee transmitters. Communications, automotive, military/aerospace, and medical represent four key areas for Pickering, he added.

When asked if the military’s push to COTS equipment is blurring the line between military and other applications, he said he still sees differentiation in 90% of the cases. “The defense industry wants your equipment to last 25 years,”



Bob Stasonis  
Director of Sales  
and Marketing  
Pickering Interfaces

he said, “and you’re not going to hear that in the consumer market.” Further, he said, specs such as insertion loss tend to be more stringent in the defense industry—and also in the automotive industry in applications involving, for example, hardware-in-the-loop simulation of an antilock-brake system.

“Generally speaking,” he said, “defense wants long-term support. We still sell products we designed in 1988.”

Pickering now provides extensive offerings in PXI and LXI formats, which of course were not available in 1988. But the company has been able to adopt its offerings to standard architecture formats that suit specific application areas. He cited an aircraft manufacturer that needed a large 100 x 100 matrix, which would have been cumbersome with a rat’s nest of cables in PXI. LXI proved to be the more effective solution with this application involving high I/O count of one signal type. Conversely, PXI might be the better choice for a mix of RF, digital, and power signals, he said.

Of course, Pickering is a switching specialist, and your test application is going to require instruments like multimeters, analyzers, generators, and so on as well as switches. A company that offers all these products might seem an attractive option. Said Stasonis, “One-stop shopping is good if you’ve got relaxed specifications.” But not everyone does everything well, he said, and

your best option might be an instrument (PXI, for example) from one company and a switch matrix from Pickering. The PXI architecture, he said, ensures multivendor cards will work together, and Pickering provides support in the unlikely event of difficulty. “We do switching very, very well,” he said, adding, “One-stop shopping may make your job easier up front but cause problems in the long run.”

Stasonis noted one surprise over the past year: The old fashioned computer PCI market is still very active. “We saw an uptick in our orders for PCI,” he said, “and we saw many defense companies are buying it.” He said he has visited customers who have PXI in the lab and in the NPI area, but they want a lower-cost tester in production, and they are buying industrial PCs along with more PCI switching. Pickering, he said, is working to meet their requirements.

Stasonis commented that the move toward solid-state switches is not proceeding as rapidly as he may have hoped. Solid state sees use in HALT/HASS applications, he said, where a DMM might scan many nodes, and the 100-Ω solid-state switch impedance is insignificant compared with the DMM’s 1-MΩ and up input impedance. But for RF applications, people note the solid-state switch’s 3-dB or 4-dB insertion loss and get panicky. But that insertion loss is repeatable, and if you can calibrate it out of your test, solid state is the better answer. Mechanical switches may last for 1 million, 5 million, or even 10 million cycles, but if you’re doing 24 x 7 telemetry, 10 million cycles may take only a year. “If you can’t live with more than half a decibel of insertion loss you’ve got to go mechanical,” he concluded, adding that more education is needed to help customers make the optimum choice. **EE**