

# Mass interconnect systems help protect company investment

Mass interconnect systems provide the critical connection between the tester and the unit under test. Elizabeth Wise reports.

**E**very company that builds complete systems or manufactures printed circuit boards (PCB) does so with the intention of delivering quality, error-free products to their customers.

As a result, the general test approach in the printed circuit board assembly industry continues to evolve. Many companies employ open software environments in a concept called the common core or standard platform tester. In the past, companies might build one tester for each product they intend to produce. This would lead to inefficiencies as testers break or workloads increase significantly, since one tester could not fill in for another tester.

With a common core tester, a company can build one tester with a standard platform from which all products can be tested. Besides the primary benefit of reducing complexity by requiring only one tester, this also creates

redundancy, with any tester capable of filling in for any other tester should the same maintenance or workload issues arise.

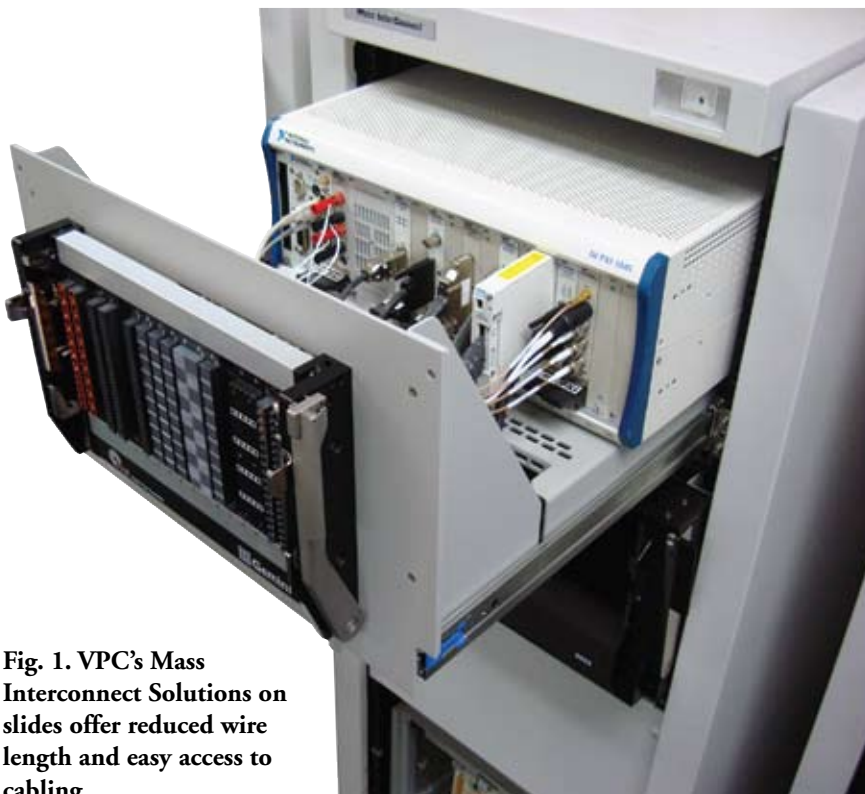
Mass interconnect systems provide the critical connection between the tester and the unit under test (UUT). By using a receiver on the tester side and mating it with an interchangeable test adapter (ITA) on the UUT, the mass interconnect allows multiple types of I/O to be easily mated at one time, simplifying the test process and preventing many of the errors that occur with other types of connectors.

Advantages of mass interconnect systems over test systems that use custom interfaces include modularity, maintainability, upgradeability and scalability. The modularity of a mass interconnect allows for a range of contact types to be used together, whether it is power, digital, RF or pneumatic, to name a few. The modules are selected to match the I/O of the instruments in the tester. Hybrid modules allow mixed signal types to be used in one module, such as power and sense lines. This modular approach makes maintaining and upgrading systems extremely easy. If a contact or the module that holds it becomes damaged, the user can easily replace the module, which keeps downtime to a minimum. Upgrading is as easy as adding additional modules to unused module slots.

Mass interconnect systems are also scalable, ranging from 1 to 17 000 points of contact. This enables engineers to select a system that works for the products they are testing without spending money on capability they do not need. Options for mass interconnect systems, including platform support, slide kits for reduced wire length, and vertical hinged mounting frames, provide easy and flexible integration. These benefits are a primary reason why many companies are now choosing mass interconnects as part of their common core test strategy.

There will always be the need for a connection between the test system and the unit under test. By using a mass interconnect specifically designed for that purpose, rather than creating a custom interface, you can reduce both system test time and overall cost by reducing the number of specialised testers you need. Mass interconnect assures of many years of error free testing. ♦

*Elizabeth Wise is with Virginia Panel Corporation, Waynesboro, VA, USA. [www.vpc.com](http://www.vpc.com)*



**Fig. 1. VPC's Mass Interconnect Solutions on slides offer reduced wire length and easy access to cabling.**