

AEROFLEX

A passion for performance.



5800

Multi-Configuration
Multi-Function
Test System



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Multi-Configuration Multi-Function Test System



Today's ever changing technology means printed circuit board (PCB) designs are becoming more and more complex while their life span generally is becoming shorter.

This makes the task of specifying test equipment exceedingly difficult for anyone who manufactures PCBs. While you know what problems and challenges you have today, fast changing technologies make it difficult to predict what problems lie six months ahead, let alone looking forward two to three years.

For your current range of products in-circuit test or flying probe may be your preferred method of test, but tomorrow you may need to consider functional test or system test. Therefore a machine you buy today may not meet your needs tomorrow.

You may already want to perform in-circuit test, functional test and system test, but to justify purchasing three machines to test your product could prove difficult and will certainly eat into your profit margins, let alone the space in your factory. Also there may be a need for training on each of these machines, meaning additional strain on your training budget.

All of these issues take time to resolve and have implications on your time to develop good quality test solutions, which in turn will affect your time to market and profit margins.

The solution?

A tester with an open architecture that also allows integration of hardware and instrumentation from third party suppliers, enabling one machine to be cost effectively configured for different test environments. An open approach to the software should also be adopted that allows simple integration of third-party drivers and other software.

The Aeroflex 5800 series of PXI based testers provides that solution.

5800 Series Features

- PXI Capable
- .NET Compliant Software
- Analog in circuit and functional test
- Cost effective
- Up to 3456 analog test points
- Up to 1152 Digital Test Channels
- Highly Configurable
- Fast Program Development
- 3 body styles
- Small Footprint



Change your configuration

Flexibility

The 5800 Range



5800 Floor Standing - High Volume Production

The floor standing system has the core system ergonomically angled to the horizontal and provides a bed of nails style interface to the fixture. An electro-mechanical locking mechanism engages the fixture onto the interface. The system provides independent dual-well vacuum control to connect the test subject to the fixture. The floor standing system is provided with 3 programmable user supplies each capable of providing 0 to 35 Volts at 3 Amps or 0 to 15 Volts at 5 Amps. The controller is an industrial PC running Windows XP, which is mounted inside the system.

5830 Rack Mounted - Integrated System

This builds the core system into a 19" rack for further test flexibility. The Aeroflex cards can then be cabled to an industry standard interface of the user's choice such as a virginia panel™ or MAC™ panel. The rack-mounted system is the easiest platform to integrate additional test resource that is not available in PXI format such as GPIB controlled instrumentation, as it can all be contained within the one unit.



5820 Benchtop - Cost Effective Test

The benchtop model provides the same common core system but in a lower cost package. The Aeroflex instrument cards are interfaced to the test fixture by means of interconnecting cabling. As with all the body styles 3rd party PXI and GPIB controlled instrumentation can be added to further enhance the capabilities of the system.

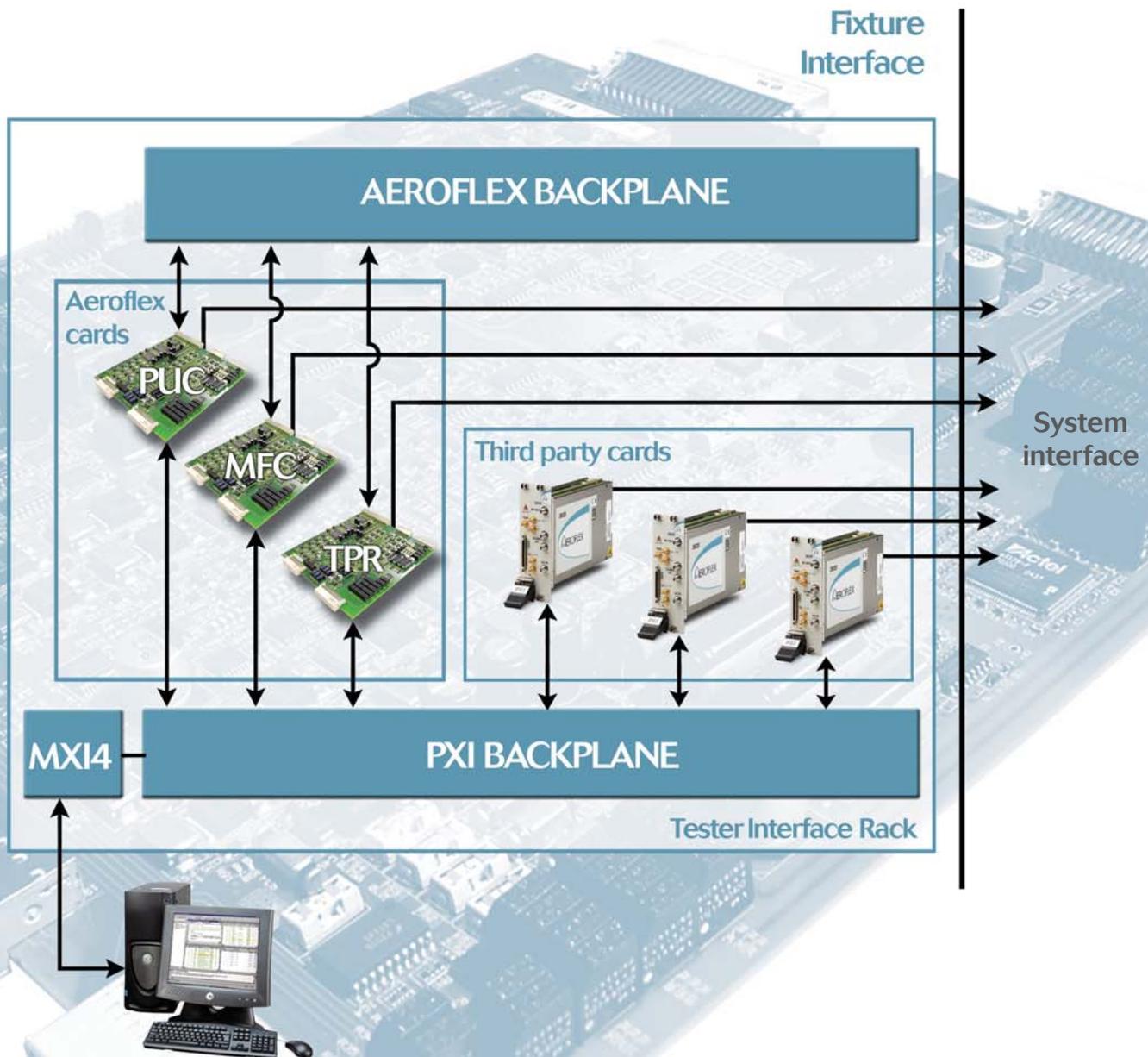
to suit your environment.

Hardware Architecture

The Aeroflex 5800 series utilizes a National Instruments MXI-4™ enabling a seamless connection between the PC and the instrument cards, be they Aeroflex 5800 instrument cards or 3U PXI cards from any vendor. The MXI-4™ is a PCI-PCI system enabling the use of an external PC as opposed to an embedded controller.

To give the 5800 series ultimate flexibility and power, two backplanes have been incorporated into the design of the system. The PXI backplane gives the 5800 the ability to benefit from the wealth of PXI cards available, while the Aeroflex backplane ensures that the integrity of fast in-circuit and functional signals between Aeroflex cards are maintained.

The diagram below explains the relationship between the two backplanes and the architecture of the tester interface rack. It can be seen that the Aeroflex instrument cards communicate to the Aeroflex and PXI backplanes, using the MXI 4 interface to communicate to the controller (PC). Cards shown are the power and utilities card (PUC), multi-function card (MFC) and test point relay (TPR). 3rd party PXI cards communicate directly with the PXI backplane and therefore do not require a communication path with the Aeroflex backplane.



Integrated Software Environment



Aeroflex Integrated Development Environment (IDE)

Aeroflex has developed a powerful interactive environment that is simple to use allowing fast program development. It is a purpose built software environment that not only gives you access and control of the Aeroflex 5800 hardware but also gives you the tools to effectively utilize any 3U PXI hardware.

• Fast Program Development

The Aeroflex IDE uses a mouse driven "drag-and-drop" editing system for fast and accurate program development that ensures developed code is syntactically correct. The environment offers the developer a list of possible tasks that can be added and edited in real time.

• Fully Integrated

All the components of the user interface act as a cohesive unit, which presents the developer with the complete state of both the program and the hardware. This allows the user to make fully informed decisions during program development.

• Interactive Edit and Debug

The Aeroflex IDE gives the user a full set of debug tools which provides the ability to modify code and variable values during the debug and execution of the program. This can dramatically shorten development times as there is no need to terminate a program to make edits and then re-execute.

• Full Access to the .NET Framework

The functionality that the .NET class library provides is available to all users of the Aeroflex IDE. This allows the user to take full advantage of this library saving many hours of program development by using previously defined routines.

Software Integration

The open approach that has been adopted by the Aeroflex software enables the use of third party software such as Teststand™, Labview™, C#™, and Visual Basic™. In short any platform that is .NET compliant.

• Hardware Control

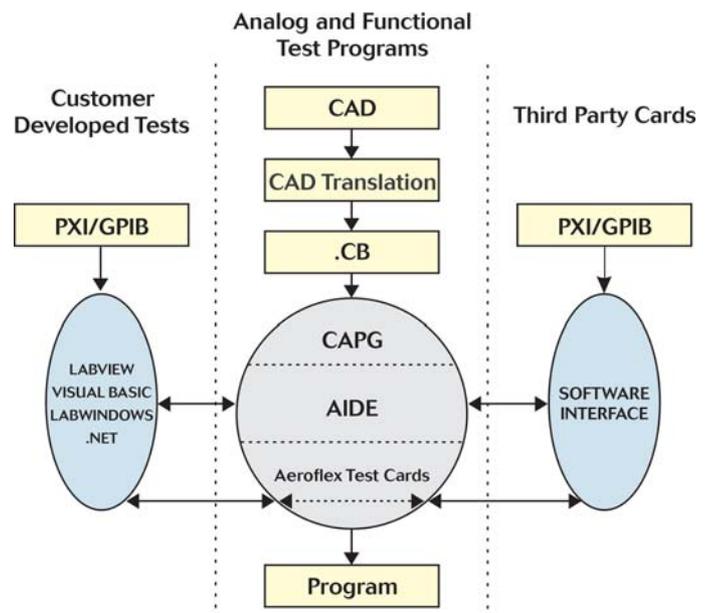
Any .NET programming environment can be used to access and control the 5800 series hardware

• Code Integration

Test programs developed in the Aeroflex IDE can be executed from any .NET aware software environment.

• Code Redeployment

The Aeroflex IDE can use code developed in any .NET environment, enabling code developed during the test and development stage of a new product to be re-used in production test.



Programming Software Benefits

- Single software program generation platforms reduce training costs
- Integrated approach keeps generation times to a minimum
- Low application generation costs
- Quality software tools ensure high quality applications
- ECO/Modification capability supports changing board design
- Environment tuned to test

Multiple Test Techniques

A typical test strategy may consist of in-circuit test, functional test and then system test. Traditionally this would require 3 different types of test system. The 5800 can provide all three test stages from one platform. The advantages of deploying one type of test system across the production floor are numerous.

Reduced Training Required

The Aeroflex interactive development environment is simple to use and easy to learn. Using the same test platform for all test stages means that you only have to learn how to use the one environment thus minimizing program development lead time.

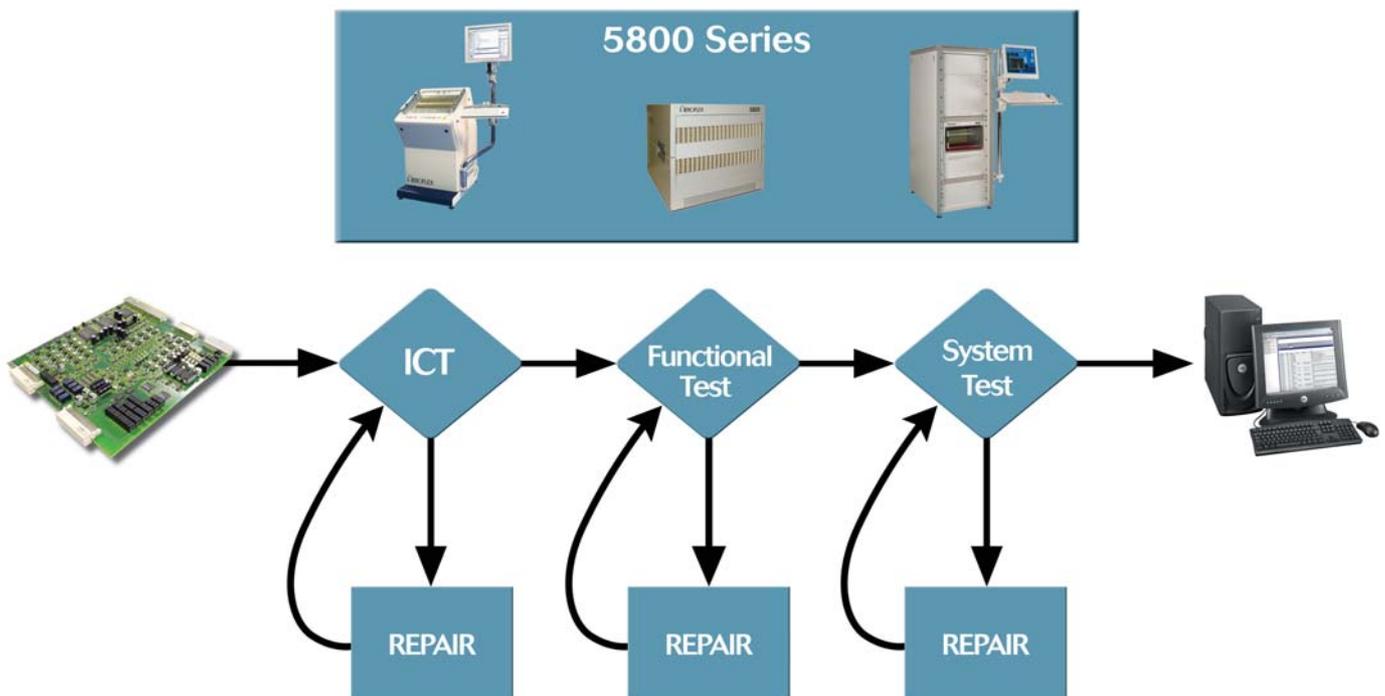
The open approach to software also enables users with previous .NET programming skills to write test programs for the 5800 series in any .NET-based language.

Open Architecture

An open architecture enables the user to deploy any 3U PXI module. In addition, the ability to integrate code written in other .NET development environments provides great flexibility in developing and migrating applications.

Reduced Investment

With one test system type across the production floor the overall investment is reduced in terms of training, spares holding and maintenance contracts .



Test Capability Advantages

- 'One stop shop' test solution reduces capital spend
- Increase test coverage and reduce repair costs
- Improve the quality of your outgoing product
- Fully upgradeable so the system grows with you
- Reduces program maintenance costs
- Supports multi-level test strategies

Benefits

The Benefits of Flexibility



The 5800 series offers a number of instrument and switching cards that enables customization of the system to meet the requirements of the unit under test.

Card Type	Capability	Comment
MXI-4	Interface to the PC	Occupies slot 1 in all configurations
PUC - Power and Utility Card	Basic system control including power, sensors and triggering	Occupies slot 2 in all configurations
MFC - Multi-Function Card	User defined signal generator and measurement system	For use with Analog in circuit
TPR - Test Point Relay Card	Provides 192 test channels for analog in circuit system	Maximum of 18 cards per system
MVS - Multi Voltage Source*	Offers up to 18 programmable DC sources	Single slot form factor
DTC - Digital Test-system Controller*	Provides control for Digital Test System	For use with DTP (See Below)
DTP - Digital Test point card*	Supplies 64 High speed Digital functional test channels	Maximum 18 cards per system

* available in 2006

Interfacing

The 5800 series offers a number of interfacing options to the test fixture and test subject. Rackmount and Benchtop machines give the choice of a simple cost effective cabled approach to a high performance interfacing solution.

The floorstanding system offers a dedicated high performance test fixture interface that grows with the system configuration. Each 5800 instrument card used in the floorstanding machine utilizes a probe carrier card which plugs directly into the instrument card. The probe carrier

card becomes the fixture interface and as it plugs directly into the instrument card, ensures a very short signal path to the test-fixture. The probe carrier card is populated with high performance bed-of-nails interface pins that ensure excellent electrical performance and a long life cycle.

If only half of the system is populated with instrument cards, only half of the interface needs to be populated with probe carriers therefore halving the cost of the interface.



Global Service & Support

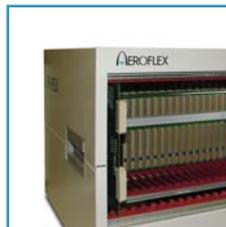
One of the most important factors in any purchase of capital equipment is the availability and level of support that is provided.

With over 25 years of proven quality support, Aeroflex provides a multi-level support strategy to all its customers. Aeroflex's world-wide and regional support centers provide software, service and application support for all products including the 5800 series. Dedicated and experienced engineers provide both telephone and on-site support for all of your requirements. A dedicated help-desk manned with experienced technical engineers provides the point of contact for all your hardware and software questions.

Aeroflex can also offer a comprehensive programming and board test service. Whether your requirement is for application only or to support the testing of boards in an overload situation, the application team can support you as required.

A dedicated training team can provide hardware and software training worldwide thus ensuring that you get the most out of the system.

All of this ensures that your system will pay you back from day one and all throughout its life.



"...over 25 years of proven quality support."

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AEROFLEX
A passion for performance.



Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.