

Case Study



Test Solutions for Defense Suppliers



- Supportable, turnkey test solutions for the defense industry
- On time and within budget deliveries
- COTS (Commercial Off The Shelf) test solutions PXI/GPIB/PCI etc.
- High speed, real time, digital testing
- Laser test vectors translated and re-use of existing test code
- High levels of test engineering expertise
- Worldwide deployment and lifetime in-country support

Aeroflex has a track record for providing ATE test solutions to major defense suppliers. These are primarily functional test systems for testing PCBs, sub units and systems for various combat aircraft types.

The “core” of each system is the Aeroflex 5800 PXI-based configurable low cost ATE system, comprising 21 slots that can be fitted with PXI modules and a high speed digital subsystem, together with external /GPIB/PCI/USB instrumentation.



5800 Core System

The Aeroflex applications group is experienced in the design, build and commissioning of these systems. Aeroflex applications engineers also develop test fixtures and programs to test each board and sub unit type, ultimately providing a fully supported turnkey test solution.

In collaboration with our customers, Aeroflex also assists in the development of the Test Support Documents (TSDs). This is particularly beneficial when re-using developed test code in the final test environment.

Simulation or laser generated test vectors can also be re-used with the Aeroflex translation technique called SIMLINK.

History

Aeroflex has a long and successful history in the supply and support of various automatic test solutions to the military market, working closely with customers in true partnerships, developing long-term relationships and understanding.

This leads to challenges being overcome together and the achievement of common goals whether in technical demand, cost or delivery.

Often our customers base need to augment their skills base to achieve delivery timescales and engage Aeroflex as a supplier. This method of partnership has also established Aeroflex as a prime supplier of test solutions in the defense industry.

Typical of turnkey systems supplied to the defense industry are functional solutions for:

- Head-up display
- Engine Management Unit
- Flight Control Computer
- Sonar Test Systems
- Air Intake Systems
- Sonar Beam Steering
- Cryptographic Test Systems
- Defense Aid Subsystems
- Waterborne Mines
- Main Battle Tank

Why Choose Aeroflex as a Partner?

Defense suppliers choose Aeroflex as a result of a strong track record in providing comprehensive, cost-effective test solutions, delivered on time and within budget. With service/maintenance and applications support, strategically placed worldwide to offer maximum support.

Aeroflex skilled engineers are able to develop Test Schedule Documents (TSDs). This is usually done in conjunction with the development engineer at an early stage in the product development process, advising on code reusability and design for test (DFT) issues. Fully assisting in New Product Introduction (NPI) before main volume production. TSDs are ultimately approved by both parties. Functional test programs, diagnostic routines and fixtures are then developed from the TSDs.

The benefit is that Aeroflex engineering fully understands how each board or sub unit functions in detail and is able to accommodate product change with relative ease.



PXI Test Modules

Project Management

Most test solutions are both technically demanding and have very demanding delivery schedules. Different customers have different project management needs. All projects are project managed to ensure delivery milestones are agreed upon and completed in regular project meetings with the customer. Project management allows for program changes and scheduled invoicing.

Test Fixturing

During the pre-production phase, the development engineer is usually concerned with ensuring that the design and functionality correct. Physical connectivity is designed to provide a low cost solution to achieving the functionality required. Aeroflex will consider and advise on best practices for test interfacing for a multi-use production environment.

In modern times, this is not an insignificant task. Taking previously developed manual tests and providing a "ruggedized" automatic solution can have the overall effect of reducing test time from days to minutes.



Typical Military Defense Solution

Functional Testing, Lasar Test Files and Diagnostic

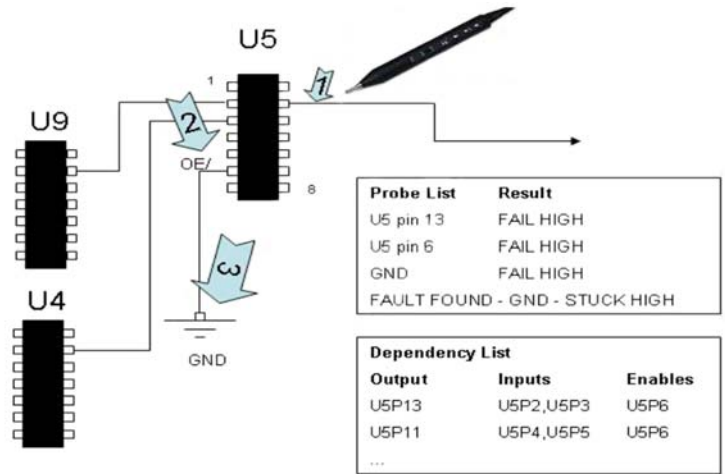
The objective of PCB and sub unit/system functional test in the Military environment is, as it has always been, to emulate the products' operational environment. This ensures, that when deployed, it operates the first time, every time. This is a safety critical market where malfunction due to a dilution of the manufacturing or test process is not an option.

Diagnostics in the Military market are of paramount importance, whether during manufacturing test or in field repair. In addition to general guided probe diagnostics, Aeroflex applications engineers, by utilizing Aeroflex SIMLINK and simulator post-processor software, can take LASAR™ test vectors and produce a test program suitable for execution on the low cost 5800 test platform. These re-used digital test sequences are "loaded" in to the 5800 Digital Test System (DTS) for execution at the UUT.

Where the necessary simulated data files are available, SIMLINK will also generate diagnostic files which are optionally used during testing in guided probe comparison diagnostics.

World-Wide Service and Support

Aeroflex service and support is a worldwide operation that prides itself in the ability to support sales and service globally. Aeroflex has previously complied with the demands of Military suppliers in various different manufacturing locations. Sometimes entering into 10, 15 or even lifetime support agreements. Support locations can be found at the Aeroflex web site, www.aeroflex.com.



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