

Automatic Test Systems



CACI extends the life of mission-critical weapon systems through the replacement of legacy test systems and the development of new/initial test systems. CACI upgrades, enhances, and develops Automatic Test Systems (ATS) for the Department of Defense (DoD). These design activities include upgrades or replacements due to Diminishing Manufacturing Sources and Material Shortages (DMSMS), which are obsolete and unsupported items, and the migrating of tests requirements or Test Program Sets (TPSs) to new commercial off-the-shelf (COTS) custom-integrated tests systems.

The Automatic Test Systems Sustainment Initiative contract vehicle (ATSSI II, FA8227-21-D-0004) helps customers expand requirements beyond normal benchtop testing. Common sustainment issues such as material procurement, support system re-engineering, engineering analysis, limited construction, and technical data generation are now also available to customers.

CACI experts have broken new ground in designing and developing test systems from COTS components. Our engineering staff develops Automatic Test Equipment (ATE) and Test Program Set (TPS) system software in languages such as MATLAB®, Verilog (FPGA embedded), C#, .NET, LabVIEW™, LabWindows/CVI™, and TestStand™. The team is well-versed in agile development methodologies and traditional, legacy software test languages such as Assembly, ANSI C, Fortran, Abbreviated Test Language for All Systems (ATLAS), and IEEE 1671 Automatic Test Markup Language (ATML).

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For more information about our expertise and technology visit:

www.caci.com/automatic-test-systems

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Features

- Applications for both military and civilian air, land, and sea platforms.
- CBATS Model 101/201 testers support diagnostic and acceptance test requirements for analog and digital avionics systems (instrumentation, flight computers, power units, and other electronic assemblies).
- CBATS replaces 56+ legacy test systems.
- CBATS is a member of the DoD Family of Testers and includes government rights in licensing and warranty.
- CBATS interfaces directly to units under test and can form a nerve center for complex test systems.
- CBATS is automated; minimal operator input.
- Digital (DXR) and Power Supply (PSXR) rollups for extended testing capabilities.

Benefits

- **Full product life cycle development:** CACI performs R&D through detailed engineering and production of various automated test systems, and related technologies, including RF systems and instrumentation.
- **Test system design and development:** CACI provides legacy test system modernization by designing TPSs, per MIL-PRF-32070A, and hardware design per MIL-PRF-28800.
- **Reverse engineering:** CACI develops software data packages for obsolete and unsupported systems and components that maintain form, fit, function, and integration characteristics. We produce complete mechanical data packages and redesigns for systems with missing technical information.
- **Turnkey solutions:** CACI solves design and development engineering problems to provide superior, ready-to-use hardware and software packages.
- **Technical data packages:** CACI produces comprehensive drawing packages that use commercial (ASME Y14) and government (DI-SESS-81000/810003) standards that adhere to internal quality standards based on our AS9100-certified development processes; ISO 9001:2015; and CMMI Level 3.

CBATS Details (Windows 10 Technology Refresh)

DoD Family of Testers-certified with flexibility to conduct unit under test (UUT) end-item testing with unique/specialized TPS products.

Lower initial investment; small footprint; PXI-based software architecture including hardware abstraction layer (HAL).

Proven extensive switching for both signal and power lines for digital

multimeters, high-speed digitizer, data acquisition, counter/timer functions, and accessible USB, GPIB, Thunderbolt, and ethernet ports to extend capabilities and ethernet ports to extend capabilities.

Accommodates programmable controls: 28VDC power supply, 400HZ power control, synchro/resolver controller, the VPC Series-90 receiver, and FPGA to create synthetic instruments.

Major ATS Program Attributes

- Automatic Tester Development and Modification.
- Electrical Solutions
 - CCA design and layout via Altium.
 - Circuit simulation via PSpice.
 - Electronic assembly packaging.
- Mechanical Solutions
 - SolidWorks, AutoCAD, Flotherm.
 - Modeling and Simulation.
 - Weapons integration and system modernization.
- Software Solutions
 - NI LabWindows/CVI, LabVIEW.
 - NI Teststand.
 - MatLAB, Fortran, C, C++, C#, Verilog, .NET.
- Field Operations
 - Test Range Characterization and upgrades.
 - On-Site Support.
- Production Capabilities
 - AS9100, ISO 9000 standards.
 - IPC-A 610 and 620 certified technicians.
 - Through-hole and surface mount soldering.
- Program and Technical Management.
- TPS Development.
- Training.

Current Aircraft Supported

- | | | |
|--------|---------|----------|
| ▪ A-10 | ▪ C-5 | ▪ F-15 |
| ▪ B-1 | ▪ C-130 | ▪ F-16 |
| ▪ B-2 | ▪ E-3 | ▪ KC-135 |
| ▪ B-52 | ▪ E-8 | ▪ T-38 |

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CACI's approximately 22,000 talented employees are vigilant in providing the unique expertise and distinctive technology that address our customers' greatest enterprise and mission challenges. Our culture of good character, innovation, and excellence drives our success and earns us recognition as a *Fortune* World's Most Admired Company. As a member of the *Fortune* 1000 Largest Companies, the Russell 1000 Index, and the S&P MidCap 400 Index, we consistently deliver strong shareholder value. Visit us at www.caci.com.

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