

# Custom Automated Test Equipment



*Computer Driven Test Equipment  
Customized to Unique End-User  
Requirements*

*Automates Production, Field, or Depot  
Testing of Customer Equipment*

*System, Chassis, Module, or Board Level  
Verification and Validation*

*Graphical User Interfaces for Ease of Use  
and Minimal Operator Training*

*Significant Improvements in Fault Detection  
and/or Isolation Capabilities*

*Maximum Utilization of Commercially  
Available Off-the-shelf Hardware and  
Software to Minimize Development Cost and  
Schedule*

*Designs Based on Extensive Experience  
with RF, Analog and High Speed Digital  
Circuitry Testing*

**Summation Research, Inc (SRI)** has been developing automated test equipment (ATE) for organizations since its inception in 1989. The company's first major contract was for the development of module, subsystem, and system level test sets for the production verification of a multi-channel advanced technology military UHF transceiver terminal. The prime contractor for the terminal made use of SRI's experience base with communications, cryptographic equipment, and high-speed data processing logic to produce multiple ATE systems that were rated at 99.99999% fault detection for the end product. Further capabilities provided user-friendly means for fault isolation and correction, even for low level test and/or maintenance personnel.

Subsequent ATE developments have included systems ranging from rack level to simple box level test stations. Almost all systems have been designed around standard Windows based PC's, incorporating standard commercially available software packages to provide graphical user interfaces and report processing. The use of standard software packages allows customers to develop or maintain these elements after system delivery, if so desired. Depending on specific end-user requirements, highly reliable test sets to verify RF, analog, and/or digital circuitry can be specified, designed, developed and verified to the levels necessary to support either low or high volume production efforts in a cost effective and timely manner.



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# Custom Automated Test Equipment Capabilities

## *General Technologies*

### **Communications Equipment**

RF Frequency Converters  
Demodulators/Bit-Synchronizers  
Decoders/Frame Processors  
Encoders and Modulators  
High Power Amplifiers  
Spread-spectrum (Direct or Frequency Hopping)  
DC to 40 GHz

### **General Electronics**

Audio/Visual Interface Equipment  
High-speed Data Processing  
General Purpose Processing Logic

## ***Typical Features***

Low Cost Development, Fast Turn-Around  
Free Technical Support  
Reusable Test Systems with Expandability  
User-Friendly Operation  
Custom Designs (where necessary)  
Complete Fixture Capabilities  
Thorough and Complete Documentation

## *Services*

### **Requirements/Concept Development**

Identify Critical Test Requirements  
Specify Fault Detection/Isolation Needs  
Test Procedure Documentation  
ATE Concept Development

### **Design/Development/Support**

Board/Module/Equipment/System Level Testers  
Full Validation and Verification of Resulting Designs  
Final System Installation, Verification, and On-site support

### **Other Support Services**

Equipment Certification for FCC, IC, ETSI and Others  
Environmental Qualification  
Equipment Calibration

### **Custom Hardware**

Wiring equipment racks  
Custom test fixtures  
Custom cables & connectors  
Specialized Test Designs and Equipments

### **Typical Software**

LabVIEW  
LabWindows/CVI  
ComponentWorks  
Test Executives  
NI-DAQ  
Database (Misc)  
Web reporting  
Web monitoring/control  
Data acquisition and analysis  
Instrument/process control

\* All specifications subject to change without notice or obligation to retrofit.

Consult factory for custom options and/or alternate specifications



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