



MIKROS SYSTEMS CORPORATION

MULTI-FUNCTION DISTRIBUTED ANALYSIS TOOL (MFDAT)

The ADEPT® Solution

About the Technology

Using the technology conceived under the Multi-Function Distributed Analysis Tool Mikros Systems developed ADEPT®, the Adaptive Diagnostic Electronic Portable Testset. ADEPT is a computer-aided alignment and maintenance tool for the AN/SPY-1 radar system, the primary air and surface radar for the Aegis Combat System installed on Ticonderoga (CG-47) and Arleigh Burke (DDG-51) class warships. By integrating the required test equipment functionality and automating the testing processes, ADEPT significantly reduces system calibration, alignment, maintenance and repair times, optimizing radar performance and enhancing overall Aegis readiness.

ADEPT eliminates the need for traditional manuals and other paper documentation by incorporating the information in an internal database and presenting it to the operator in a logical, user-friendly interface through its XML-driven document processing engine. The maintenance procedures, intermediate measurements, and test results are stored in the database and made available for trend analyses in support of pro-active remediation and logistics planning. ADEPT's distance support capability allows sharing data and technical resources ashore and for real-time remote operations, to assist the onboard maintainer and reduce the need for expensive, shipboard technical assistants. The historic measurement data is also used to provide a realistic, off-line training capability, further reducing system maintenance downtime. As a programmable, modular, PC-based maintenance tool, ADEPT applicability can be expanded to other complex military and commercial electronic systems.

Military and Commercial Significance

ADEPT represents a major step in the standardization of electronic test equipment and system testing processes. The system provides a viable path towards meeting DoD's readiness goals while reducing the dependency on manpower, training, and manually-operated test equipment. ADEPT's PC-assisted, semi-automated maintenance processes enables consistent grooming of any complex electronic system to a peak operational condition using general technicians. ADEPT has reduced the calibration and alignment maintenance times for the AN/SPY-1A radar by about 50%.

APPLICATIONS

- Navy: AN/SPY-1A Radar maintenance and test tool
- ADEPT application modules for all other variants of the SPY-1
- Projected near-term applications:
 - AN/SPS-67 Surface Search Radar
 - AN/SPS-49 long-range air surveillance radar
 - AN/SPQ-9B surface surveillance and tracking radar
 - AN/SLQ-32 electronic countermeasures

About the Company

Mikros Systems Corporation specializes in the research and development of electronic systems technology for military applications. Since becoming active in the SBIR program in 1988, Mikros has won 17 SBIR awards, including six Phase II awards and four Phase III technology commercialization programs. In 1996 the company was the first New Jersey recipient of the Tibbetts Award for SBIR Excellence. In 2005, and due in large part to the ADEPT® program, Mikros was recognized by Deloitte as one of the 500 fastest-growing technology companies in the U. S. and Canada. Projected revenue for 2007 is over \$3M.

Topic Number: N02-039
(NAVSEA)

SBIR Investment: \$1.1M
Project Revenue: \$7.7M

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