

ADEPT®

ADAPTIVE DIAGNOSTIC ELECTRONIC PORTABLE TESTSET

APPLICATIONS

- Phased Array Radars
- Rotating Radars
- Communications systems



ADEPT®(V)3 is the latest version of the Mikros Adaptive Diagnostic Electronic Portable Testset, newly redesigned to add expansion capabilities, replace obsolescent components and improve manufacturability. ADEPT Test Automation Workstations are designed to aid technical personnel in the maintenance, alignment, calibration, and error diagnosis of complex electronic systems. Through the structured collection and analysis of test point measurements on the Equipment Under Test (EUT), ADEPT:

- Helps to detect and troubleshoot error and out-of-alignment conditions
- Collects and analyzes maintenance data
- Supports test automation, condition-based maintenance (CBM), distance support and interactive training
- Improves system readiness and operational performance
- Reduces manpower support requirements and life cycle support costs

ADEPT eliminates the need for traditional manuals, paper documentation and discrete test equipment and eases the burden on system maintainers by integrating the required test equipment functionality and automating the testing process. All necessary documentation is stored within ADEPT and presented to the user in a familiar format. When a test step calls for the use of a specific embedded test instrument, ADEPT opens the instrument control and display window and sets up the instrument for optimal test point measurement. A "known good" reference is presented to the user along with a pass/fail indication. All operations and measurements are stored for after-action analysis, off-line training, and prognostics analysis for proactive remediation of potential error/out-of-tolerance conditions. ADEPT also provides Distance Support capabilities under a recent Navy Authority to Operate (ATO) certification.

ADEPT was initially developed under the Navy's Small Business Innovation Research (SBIR) program to streamline maintenance and troubleshooting on the AN/SPY-1 family of phased array radars. ADEPT systems are currently deploying on all Aegis CG and DDG platforms to support the SPY-1. However, since the system uses commercial-off-the-shelf (COTS) instrumentation modules, ADEPT variants can be used to support both preventive maintenance (PMS) and condition-based maintenance (CBM) of other radars and complex electronic systems in military or commercial applications.

BENEFITS

- Smaller physical and logistical footprint than equivalent General Purpose Electronic Test Equipment (GPETE)
- Consolidates several functions of GPETE into an Automated Test System (ATS)
- Maintenance Procedures Automation
- Uniform, improved maintenance and test data recording
- Improves distance support capabilities
- Provides real and non real-time distance support
- Decreases routine maintenance time
- Increases System Readiness

INSTRUMENTATION SPECIFICATIONS (AN/SPY-1 VERSION)

Oscilloscope	2 or 4-channel, 2 GS/sec, 500 MHz analog bandwidth
Digital Multimeter	7½ digit, ±10 nV to 1000 VDC (600 VAC), ±1 pA to 3A current, 10 μΩ to 5 GΩ resistance
Input Switching	12 x 1 or 6 x 2 switch matrix
RF Power Sensor	-67 to +23 dBm, 10 MHz to 8 GHz (average power) -60 to +20 dBm, 50 MHz to 18 GHz (peak power)
System Controller	Single-Board Mini-ITX Controller, Intel Core i7 CPU, 2.66 GHz
RAM	4 GB standard, expandable to 8 GB
Mass Storage	Removable SSD (solid-state drive), 240 GB
Display Touchscreen	17 in. diagonal, FHD 16:9 color TFT-LCD, 1920x1050, LED backlight, 3M MicroTouch SCT3250EX, high-resolution, 1% accuracy
Smart Card Reader	Identive SCR333v2
Expansion	13 PXI backplane slots available for instrumentation USB and GPIB interfaces
Dimensions	18.5 x 17 x 8 in
Weight	25.5 lb