

Best-In-Class Modular Oscilloscope Designed Into Radar Test System

“ I'm very happy with our selection of ZTEC* instruments. Since their modular oscilloscopes are available in PCI and PXI formats and are compatible with Windows and Linux, our ADEPT Radar Test System is much more versatile in meeting the requirements of diverse applications without the need for us to rewrite code. That's very important to us. ”

Marc Dalby
VP Business Development, Mikros.

The Radar Test System Challenge

The U.S. Navy awarded Mikros Systems a contract to develop an automated test system to support and align the AN/SPY-1 Radar System on the Aegis Cruiser and Destroyer. The test system requirements included challenging specifications for ease of use, small size, light weight, low power consumption, high bandwidth, flexibility, and programmability. The system also had to be sufficiently rugged to meet the challenging temperature, shock, and other environmental conditions of MIL-PRF-28800 for Class III test equipment. It was required to provide a wide array of sophisticated test equipment at the maintenance technician's fingertips, including a digital multimeter, a digital oscilloscope, and dual RF power meters. The digital oscilloscope had to emulate the performance of a standalone benchtop oscilloscope. To meet this challenge, Mikros designed the Adaptive Diagnostic Electronic Portable Test-set (ADEPT), an intelligent, automated, programmable electronic test tool that aids technical personnel in the maintenance, alignment, calibration, and error diagnosis of complex electronic systems.

At-a-Glance

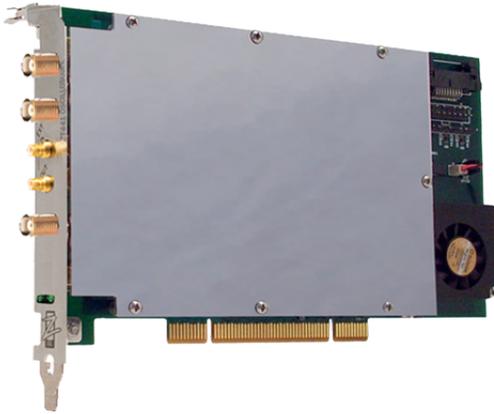
Customer: Mikros Systems Corporation
Location: Fort Washington, PA
Industry: Aerospace & Defense



*ZTEC is now a part of Teradyne Defense & Aerospace, under the ZT-Series product line.

The Modular Oscilloscope Solution

Mikros evaluated several digitizer and digital storage oscilloscope solutions. After comparing the specifications and benefits of all their options, Mikros selected the ZT-Series Instruments model ZT4611 PCI modular digital storage oscilloscope for use in their ADEPT Radar Test System, and they developed the intuitive ADEPT user interface around ZT-Series' powerful



ZScope M-Class driver. In addition to meeting all of the system requirements, Mikros recognized that ZT-Series instruments offers extended product lifecycles and has a field-proven track record in military programs. Mikros found that the ZT4611 met all of their requirements and exhibited the best available combination of hardware capability, programmability, and price.

The ZT-Series instruments model ZT4611 PCI modular digital storage oscilloscope provides Mikros with best-in-class technical specifications. They were particularly impressed at how well it emulates the performance of a standalone benchtop oscilloscope – including 1GHz analog bandwidth, switchable frontend impedance, 4 GS/s sampling, and 200 GS/s Equivalent Time Sampling. Mikros also liked the wide range of commonly used measurement functions that are built-in – such as rise/fall time, pulse width, amplitude, frequency, and AC RMS – and its flexible triggering, and advanced acquisition modes.

With waveform math and analysis functions onboard the ZT4611, Mikros didn't have to develop these programs and could offload the ADEPT processor to perform other tasks faster. The ZT4611 hardware architecture and driver software also support commonly used measurement controls and display

formats – eliminating extra programming time by Mikros engineers to achieve a familiar user experience for the test operator. Of course, another critical benefit is that the ADEPT System – with the robust ZT4611 installed – passed the challenging environmental requirements for MIL-PRF-28800 Class III test equipment with “flying colors.” Mikros also sells this rugged test platform as a standalone chassis without instruments and software.

“ My experience with ZTEC Instruments was a very positive one. We have worked with ZTEC in the past, so we expected them to provide fine customer support. On this project, they delivered in spades. Beside the standard support of their modular oscilloscope, ZTEC sent their engineers to help us during system integration – contributing custom characterization data and software development recommendations. ”

Chuck Bristow
VP of Engineering, Mikros

About Mikros:

Founded in 1978, Mikros Systems Corporation (Mikros) specializes in the research and development of electronic systems technology for military applications. Its capabilities include technology management, systems engineering and integration, with particular expertise and experience in radar and communications systems. In 2005, Mikros Systems Corporation was recognized by Deloitte as one of the 500 fastest-growing technology companies in the United States and in 2008, Defense News named Mikros Systems the 4th fastest growing defense contractor in the United States.

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