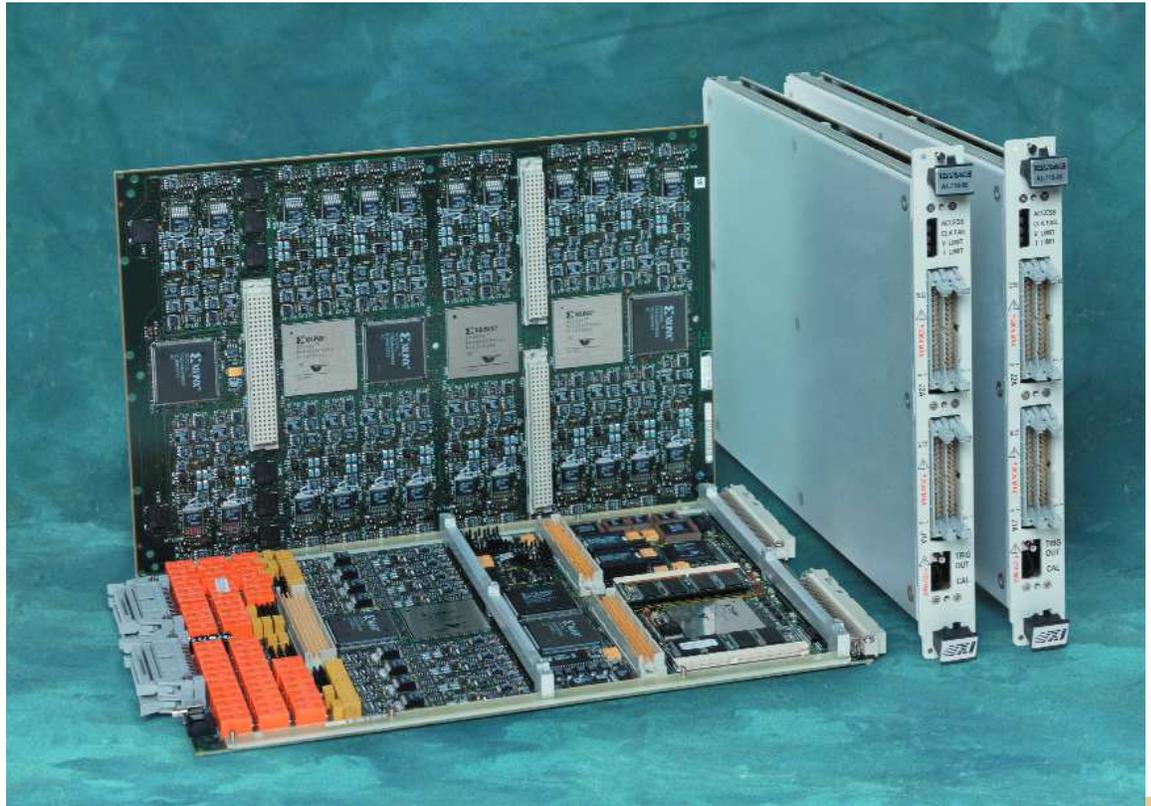


Ai7- Series Analog Test Instrument Subsystem

High-Density VXI C-Size Options for Parallel Analog Test

- Tester-Per-Pin analog testing architecture
- Six independent instruments behind every one of the 32 analog channels
- Highest density analog capabilities available in a fully compliant C-size VXI instrument
- VXI plug and play driver supports all Windows NT Framework Application Development Environments
- High-throughput testing of complex mixed signal modules, boards, and boxes



The Ai7-Series combines superior performance with all the advantages of a standard, commercial-off-the-shelf (COTS) architecture – flexibility, configurable, high reliability, and lower acquisition and life-cycle costs

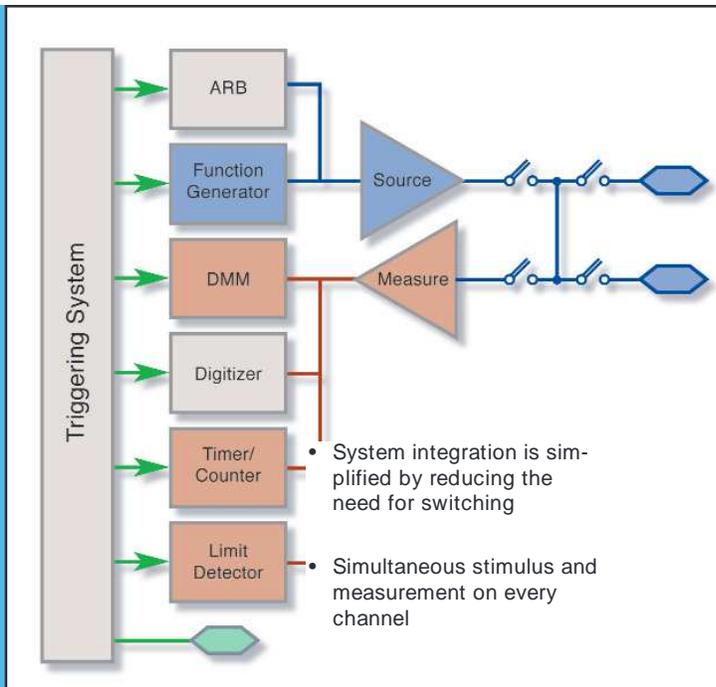
Teradyne's Ai7-Series offers a breakthrough in analog test for C-size VXI. Now VXI system integrators can build test equipment for advanced mixed-signal testing using Teradyne's revolutionary tester-per-pin analog subsystem architecture.

The Ai7-Series of VXI Analog Test Instrument Subsystems offers Teradyne's latest innovation in capabilities for analog functional test in a compact C-size format. It combines superior performance with all the advantages of a standard, commercial-off-the-shelf (COTS) architecture—flexibility, configurability, high reliability, and lower acquisition and life-cycle costs.

With a VXI plug and play software driver and hardware that is compliant with VXI interface standards, Ai7-Series instruments are easily integrated with other instruments in VXI-based test systems.

The functional test capabilities provided by this Teradyne technology are field-proven in a wide range of commercial and mil/aero applications. Teradyne high performance instruments have been integrated in test equipment supplied to the U.S. Department of Defense and all branches of our armed forces, for years. They are also designed into a number of third-party test systems.

A single Ai7 VXI C-size card provides 32 fully functional I/O channels



Every one of the 32 channels has 6 independent instruments that are all available simultaneously. System integration is simplified by reducing the need for switching. Simultaneous stimulus and measurement on every channel.

Tester-Per-Pin Analog Testing Architecture
Teradyne's Ai710 Analog Test Subsystem is the industry's first mixed signal subsystem on a card designed specifically to address the requirements for real-time signal simulation at functional test.

Each channel has 6 independent instruments behind each test pin. Each instrument can be activated at will, and is connected through a unique system triggering scheme. The test system configuration can now be determined by how many individual Ai7 10 VXI C-size cards are placed within a test system design. Each Ai7-Series card contains 32 independent channels for a total of 192 instruments in a single VXI C-size slot.

Parallel System Signal Simulation

You can now achieve real-time signal emulation in a full system functional transfer utilizing the parallel nature of a test system designed with the Ai7-Series as its analog core. Many changes in test technology had to take place in order for this breakthrough to occur.

Incredible advances in packaging technologies for analog components have led to huge integration benefits for both DACs and ADCs. Integrated mixed signal functions like 32 bit sine wave generation now costs much less and comes in very small packages. New low-voltage mixed signal manufacturing processes have provided a step function change in analog designs.

The result is a highly integrated analog testing subsystem architecture that provides tester-per-pin resources and matrix-free test system designs.

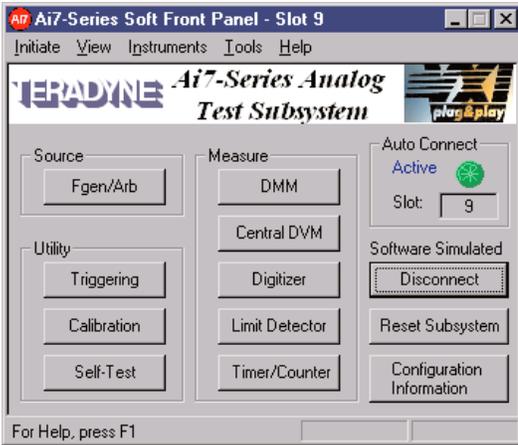
Each Analog Channel Is Packed with Functionality

Every one of the 32 channels on the Ai710 Analog Test Instrument is a testing subsystem in itself. Each channel consists of six independent test resources available, at all the times, to provide stimulus and measurement capabilities.

- Function Generator
Providing all standard waveforms, including sine, square, triangle wave at speeds up to 5 MHz.
- Arbitrary Waveform Generator
A full 2 M-sample of RAM on each channel provides both complex wave forms and a digital test mode capability up to 1 MHz.
- Digitizer
Every channel has 2 M of data for capture and analysis at a rate up to 1M s. Use this in normal testing, diagnostics, and debug.
- DMM
A full feature 12 Bit DMM with DC/AC, voltage, and current measure capabilities.
- Limit Detector
This dual threshold detector is useful for peak signal and glitch detection across the full 200 volts measurement range.
- Timer Counter
The Timer Counter measures frequency and pulse widths and provides triggers for start and stop between channels at speeds up to 10 Mhz.
- Source Ranges
Ai-710 +/- 12V
Ai-712 -1V to +20V

This rounds out the full complement of each channel capability.

Easy program integration, application level software tools



Ai7-Series soft front panel provides application level "Bench Top" tools.

Every Channel Has Phase Synchronous Operation

One of the unique architectural advantages designed into the Ai7-Series is its full inter-channel triggering capabilities. Each channel can share trigger events with every other channel, providing a high reliability triggering mechanism useful across a wide variety of applications.

The Ai7-Series VXI plug and play software driver supports a soft front panel and programming interface for all Windows NT® applications development environments (ADEs):

- The soft front panel provides interactive, graphical instrument control for access to all applications level instrument functions.
- Every instrument on every channel can be accessed for "bench top" testing and program debug.
- The Applications Programming Interface provides programmatic access to the Ai7-Series hardware and supports the popular ADEs, including National Instruments LabView™, VEE™ and Microsoft's C++™.

Faster Programming and Debugging

Rapid test program development starts with the Ai7-Series full featured software driver and intuitive graphical user interface. Given the complexity in today's mixed signal test requirements, fast programming development and a quick response to hardware changes are a critical part of any project success.

With the Ai7-Series, all of your analog test programming can be accomplished through a single driver package and user interface and

all of your support can come from a single phone call. With the Ai7-Series, you have a great opportunity to reduce product cost and better meet the challenges of today's functional test environments.

Test Development is Easy Using TestStudio for the Ai7-Series

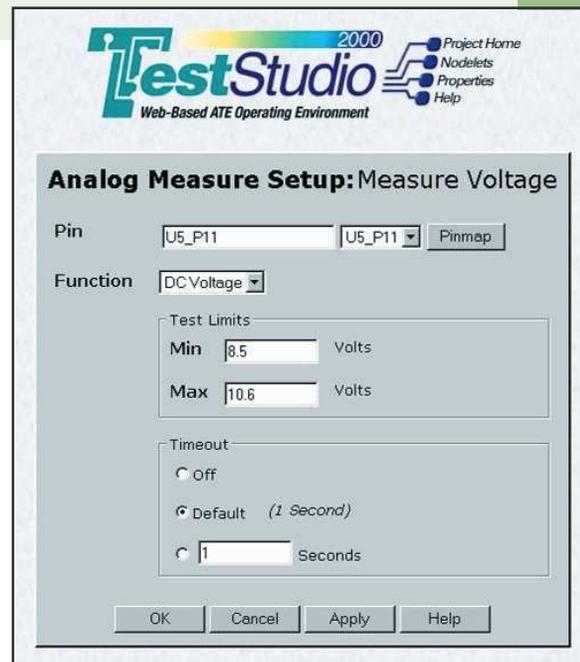
Tight integration of Teradyne's open-architecture ATE operating environment, TestStudio, provides a flexible and modular approach for managing the test development process.

Programming the Ai7-Series functions within TestStudio becomes as easy as a push of a button with the web-based user interface. Analog tests are defined within TestStudio as high level applications functions such as Measure Voltage between two pins or Provide a sine wave on five pins. Teradyne provides the means to minimize complex programming steps with fast test program development and repeatable results.

Industry Standard Format, Breakthrough Architecture

The Ai7-Series is fully compliant with C-size VXI standard (IEEE Std 1155-1992) interface specifications. The VXI bus supports external communications, including synchronization and triggering for precise digital testing.

TestStudio Integration makes test development quick and easy



The Ai7-Series minimizes cost in every stage of test

Teradyne is proud of its long history of providing test and inspection equipment, software and support to meet the most demanding specifications for all of our customers. Teradyne has applied 40 years of experience in the electronics test industry to ensure the reliability of the Ai7-Series and minimize support costs:

- Shake and vibration testing and electrical stress testing ensure that the Ai7-Series is rugged enough for shipboard or mobile environments.
- Rigorous reliability testing maximizes Mean Time Between Failures (MTBF), and high-density packaging reduces the number of components and interconnections.
- To minimize Mean Time To Repair (MTTR), complete board assemblies are replaced, not sub modules. With only one assembly type to stock, spares provisioning is simplified.

Self-test software efficiently verifies hardware performance using only internal resources:

- Confidence testing verifies functionality automatically, in seconds, to confirm basic instrument capabilities.

- Self-test software isolates instrument failures to a single line replaceable unit, a process that takes less than one minute.

On-board calibration hardware and software in the Ai7-Series Driver and SFP package make it easy to insure your system remains in calibration. Instrument calibration can be performed semi-automatically in the field by connecting NIST-traceable instrument standards to an Ai7-Series front-panel connector.

Worldwide support for Ai7-Series hardware and software

A leading supplier of commercial-off-the-shelf (COTS) test equipment for mil/aero applications, Teradyne has extensive experience in providing integrated hardware and software support to customers worldwide.

Teradyne support services include:

- 24-hour repair-and-return of defective parts.
- Access to ATD customer telephone assistance.
- Comprehensive training and documentation.
- Expert field applications team for on-site support.

The logo for the Ai7-Series features the text "Ai7-Series" in a blue, sans-serif font. The "i" in "Ai7" has a red dot. A red swoosh underline is positioned beneath the "Ai7" portion of the text.The TERADYNE logo consists of the word "TERADYNE" in a bold, blue, sans-serif font. The letters "T", "R", "A", and "D" are connected to each other.

www.teradyne.com/cbti

Founded in 1960, Teradyne is the world's largest supplier of automatic test equipment and high-performance interconnection systems for the electronics, telecommunications, and Internet industries.

Teradyne engineers real-world solutions with leading edge technology to overcome today's design, manufacturing and test challenges, so customers can deliver technologically differentiated products to their markets faster and more cost effectively than the competition.

Our worldwide operations include more than 50 regional centers, offering convenient local resources for sales, service, and applications engineering support to Teradyne customers throughout the world.

Teradyne – Because Technology Never Stops

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