

# TERADYNE

BECAUSE TESTING MATTERS





## 50 YEARS OF TEST LEADERSHIP

- Over \$1 billion in annual sales and \$250 million in R&D
- Largest ATE supplier worldwide
- 23,000 systems installed worldwide
- Over 800 direct service and support personnel worldwide

Teradyne corporate headquarters

## 50 YEARS OF ATE INNOVATION

### THE EARLY YEARS

Teradyne's venture into Automatic Test Equipment (ATE) began 50 years ago when its founders — two MIT students — conceived and pioneered the art of testing electronic components. Today, Teradyne is one of the industry's most elite ATE suppliers, serving customers who produce the world's most advanced electronics. Our ATE is used by industry-leading semiconductor manufacturers, printed circuit board and subassembly makers, defense and aerospace facilities, automotive diagnostic centers, contract manufacturers and electronic OEMs worldwide. Wherever and whenever testing matters, Teradyne equipment can be found.

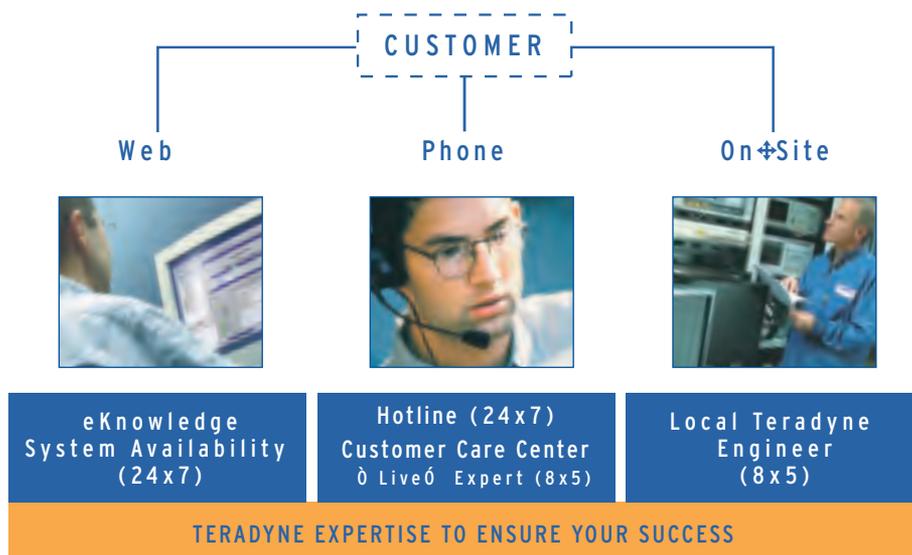
### A HERITAGE OF TECHNICAL INNOVATION

Precision engineering and technical innovation are at the heart of Teradyne's heritage. Many of our test innovations have helped shape today's industry standards. As we build upon our tradition and dedication to ATE leadership, Teradyne continues to improve its world-class products and develop support services to meet the test needs of our ever-evolving market. Working with a mature, experienced ATE company like Teradyne — with worldwide technical support staff, training programs and professional customer service organizations — is key to our customers and meeting their production goals.

### TERADYNE FIRSTS

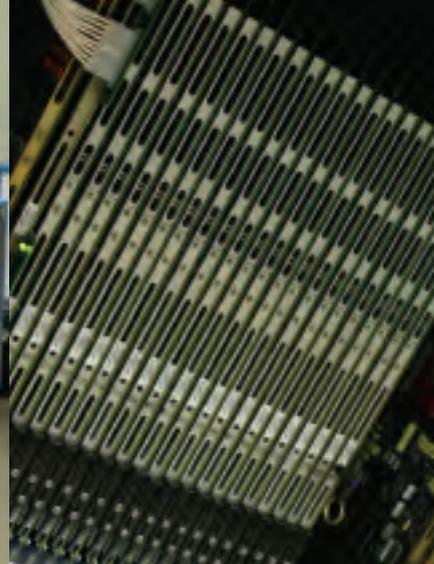
- 6,000+ ICT systems installed
- 1149.1 ICT boundary scan solution
- Real-time backdrive current measurement
- 5,000+ pin tester capacity
- 100% concurrent testing
- Combinational in-circuit/functional test
- ICT digital isolations

### Customer Support Model



### A LEGACY THAT SHAPES THE FUTURE

Teradyne's testers are built for the road ahead. Our signature products, the TestStation™ in-circuit tester and XStation™ automated x-ray inspection system, help ensure that tomorrow's PCB assembly technologies don't outpace today's test and inspection capabilities. These products are highly advanced, scalable solutions made to solve an array of test and inspection challenges. Unlike niche and other 'universal' testers, Teradyne systems are made to accommodate a variety of applications and customers who embrace and manage change. At the core of our high-performance test and inspection systems lay the technologies needed to counteract next-generation test challenges.



## TestStation – SOLVING TOMORROW'S TEST CHALLENGES TODAY



TestStation provides PCB manufacturers with the industry's most technologically advanced and scalable in-circuit test (ICT) solution. With 30 years of ICT experience and over 6,000 systems installed, Teradyne has become the world's leading producer of ICT systems. TestStation has won numerous awards for its diagnostic and test capabilities and become the tester of choice at many of the world's largest OEMs and high-volume contract manufacturers.

### SCALABLE PLATFORM – FOR MANUFACTURING FLEXIBILITY

TestStation is a scalable test platform that can be configured to match your specific test needs with configurable size, pin capability, and test features. Systems range from 256 to an industry leading 7,680 pins to match any size board in the industry. When configuring pin board capability, users can customize for each application, from analog-only up to high-performance digital vector testing. Configuration flexibility supports cost-sensitive analog test applications and high-performance digital applications with a single solution. Whenever test quality and value are key goals, manufacturers choose TestStation to quicken time-to-market, maximize productivity, and solve new test challenges. No single other ICT machine is as adaptable to the industry's range of test and throughput requirements.

### ADVANCED TECHNOLOGIES – BUILT FOR THE ROAD AHEAD

TestStation features best-in-class digital, vectorless, and analog test capabilities to ensure your system delivers results today, and tomorrow.

**UltraPin II** driver/sensor with SafeTest protection technologies are specifically designed to safely and reliably test tomorrow's ultra-low voltage PCBs. UltraPin II is the only tester pin with the accuracy required to test these emerging technologies.

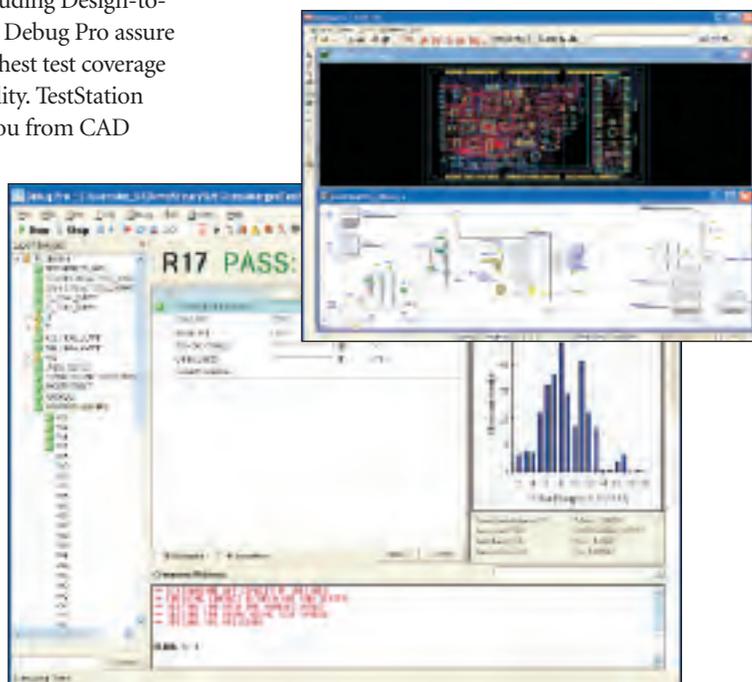
**SafeTest** offers the industry's best protection from electrical overstress removing the chance of ICT induced latent defects.



**FrameScan FX**, our new vectorless test technology, is designed to manage the testing challenge of forever shrinking packages and growing pin density. Increased measurement reliability virtually eliminates false calls.

### SIMPLE, EFFICIENT OPERATION

User-friendly software, including Design-to-Build (D2B), Navigate, and Debug Pro assure our customers have the highest test coverage with production ready quality. TestStation software will rapidly take you from CAD to test with automated generation, debug, and coverage analysis tools. Users can quickly leverage all of TestStation's features delivering industry leading fault coverage and diagnostics.





## XStation – BUILT FOR THE ROAD AHEAD

### XSTATION – THE INDUSTRY'S MOST ADVANCED 3D X-RAY INSPECTION SYSTEM

As board complexities and component counts increase, so does the need for higher performance Automated X-ray Inspection (AXI) and fault diagnostics. XStation, Teradyne's flagship 3D x-ray inspection station, sets the standard for performance. XStation is optimized for high density, multi-layer boards that suffer from poor optical inspection characteristics and exhibit significant loss of electrical test access. Its patented off-center tomosynthetic 3D technology delivers the superior visual fidelity needed to maximize fault coverage, increase throughput, improve quality and deliver reliability. XStation's image reconstruction technique is second to none in this market.

### REVOLUTIONARY 3D IMAGE CAPTURE AND RECONSTRUCTION

The power of XStation lay in ClearVue™ — its award-winning technique that captures,



stores and reconstructs multi-angle x-ray images. Its unmatched image resolution is a result of combining superior hardware and software design. Unlike other systems, XStation images are captured using a stationary x-ray source and detector. No moving parts results in better image resolution. Teradyne's digital image reconstruction software is used to view infinite angles, eliminate obscurations and deliver the industry's highest fault coverage. Even the most uncommon solder, placement and reflow problems associated with  $\mu$ BGAs, CSPs and 0201 products are more easily diagnosed using XStation.

### 2D CAPABILITY – MIX AND MATCH TO MAXIMIZE THROUGHPUT

Most board manufacturers only require 3D images when complex problems arise. XStation is perfect for those instances. However, XStation also contains a fast 2D image capture system that helps maintain high-volume production and preserve throughput. XStation users can operate a combination 2D and 3D mode where the XStation optimizes detection and throughput based on the board's topology.

### ADVANCED PROGRAMMING AND ANALYTICAL SOFTWARE

XStation comes equipped with a suite of programming tools and in-line analysis software. Its user-friendly, PC-based program development environment makes difficult inspection techniques simple. For greater statistical process control, XStation offers a software module that compiles complete defect and false call reports. Also included is a design verification module that engages CAD-based graphics and x-ray images to facilitate paperless diagnosis and repair.



**Insufficient Solder**

## COMMITTED TO CUSTOMER SUCCESS

The mission of our worldwide customer service and support organization is satisfaction guaranteed through value-based interaction. Our goal is to deliver tangible service assets and make our system knowledge and problem-solving skills available when and where customers need them most. To do this, Teradyne has assembled the industry's largest team of test service technicians and employs engineering support professionals around the world. Their charter is to extend the life and productivity of each and every Teradyne tester and, by doing so, protect our customer's capital equipment investment.

When it comes to service and support, our customers expect only the best from Teradyne. We offer a full complement hardware and software service contracts, applications support packages, extensive training classes, as well as a variety of flexible coverage plans to meet your needs.

Teradyne wants its customers to receive all the benefits of a global supplier, providing technically advanced solutions and the expertise and logistical support of a seasoned ATE partner. Our focus on ensuring customer satisfaction is exemplified by the long list of brand-name customers who have relied on Teradyne over the past 50 years. Whether it's a total turnkey system or a highly customized solution, our customers know they are receiving the most reliable, highest performance systems available.

For more information about Teradyne, visit us online at [www.teradyne.com](http://www.teradyne.com) or call us at 800-TERADYNE.

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