

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *ECI Technology SurfaceScan QC-100* at our website: ***Click HERE***

SurfaceScan QC-100

Hardware Specifications

- IBM PC compatible SERA Analyzer
- Corrosion resistant test stand for analysis of boards or wafers up to 15" x 24" (larger sizes optional)
- Sealed reservoir for test solutions
- Low maintenance reference electrode
- Beam alignment for PHT or SMT pad positioning on the stand
- Pressure regulator with flowmeter
- CE

The SERA Technique

Sequential Electrochemical Reduction Analysis

SERA is an electrochemical technique used to determine a variety of key coating parameters. These parameters are then used to evaluate and predict the solderability, wirebondability and adhesion characteristics of printed circuit boards or semiconductor wafers and lead frames. In practice, a test piece is mounted and a small well-defined area is isolated for measurement. A controlled current is applied to reduce or oxidize surface species. As the test occurs, the potential is followed as a function of time. Recording potential vs. time yields a series of plateaus corresponding to the sequential reduction or oxidation of surface compounds. The voltage levels identify the types of species present, and the time at each level measures the amount present.

Software Specifications

- User-Friendly, menu driven analytical software, running in MS-Windows environment.
- Real-time surface fingerprint on to the printer
- Data storage in MS-Access (included)
- Capability to compare/ overlay SERA plots
- Pre-programmed applications for various alternative surface finishes

SERA is a patented technology from Rockwell International.



Periodic Table of Elements Analyzed by SERA

ECI Technology

ECI Technology was established in 1987 and today is a leading manufacturer of test and control equipment for the Semiconductor and Printed Circuit Board Industries. **ECI's** equipment includes Cyclic Voltammetric Stripping (CVS)-based analyzers for controlling plating bath composition, plus the SurfaceScan for surface characterization of PCBs, lead frames and components. Also, ECI exclusively distributes Swiss vibratory plating equipment, and PILL horizontal processing lines for a variety of applications.

Worldwide Distribution & Support Available

ECI TECHNOLOGY
60 Gordon Drive
Totowa, NJ 07512 U.S.A.
Telephone: (973)890-1114 Fax: 973-890-1118
Web site: www.ecitechnology.com
E-mail: info@ecitechnology.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com



SurfaceScan® QC-100

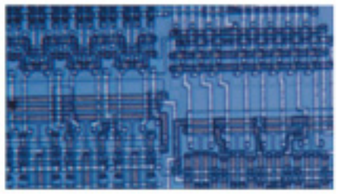
SERA is Solderability and Wirebondability Quality Control

ECI TECHNOLOGY

Simple to Operate, Easy to Interpret, Highly Accurate and Fast

SERA answers Solderability and Wirebondability questions.

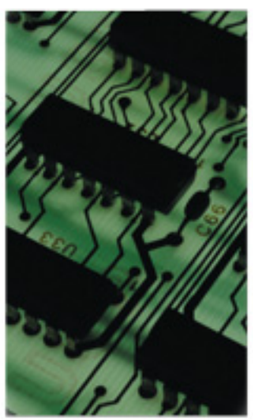
The ability to solder and wirebond is a critical factor in the manufacturing of reliable PCBs and Semiconductor devices. Each mis-bonded component lands on the reject pile, either at your plant or your customers. Traditional techniques, like XRF, SEM, ESCA/Auger, Dip and Look, etc., tend to be subjective, time consuming, costly and are often unreliable. Utilizing the patented technique known as SERA (Sequential Electrochemical Reduction Analysis), the SurfaceScan® QC-100 measures the adhesion characteristics of your surface. You'll know if you're ready for bonding and if not you'll know why!!!





The SurfaceScan QC-100 is a fast, cost-effective process/quality control tool that exposes the four major causes of rejects.

Coating Contamination-



Whether surface oxides, intermetallics, sulfides, or process contaminants are causing bonding problems, the SurfaceScan QC-100 permits you to identify potential problems on Plated Thru-Holes (PTH), Surface Mount Pads (SMT), components, and lead frames. This SERA technique is non-destructive **and** requires no sample preparation. See Figure 1 for an example of how easy it is to evaluate the solderability of a Sn/Pb surface.

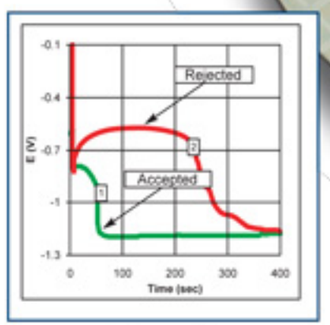


Figure 1

Coating Thickness Problems-

When using **alternative finishes** like Immersion Gold, Nickel, Silver, Tin or an OSP (Organic Solderability Preservative) a non-uniform deposit may cause oxidation of the substrate. This can result in reliability or manufacturing problems. SERA shows you the thickness of your coatings (down to 15Å) so you can avoid these problems, see Figure 2.

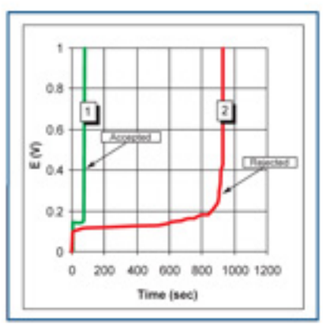


Figure 2

It is well known that optimum die adhesion requires a specific range of copper oxide thickness and composition. SERA let's you accurately determine copper oxide thickness and enables you to feel confident that you are achieving the highest quality die attachment.

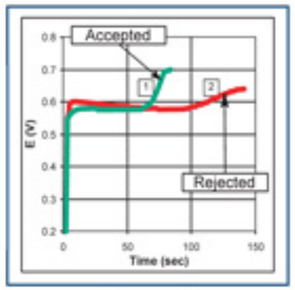
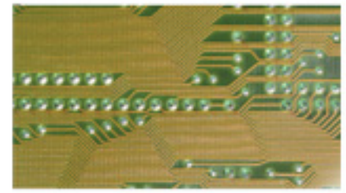


Figure 3

Coating Porosity-

Any coating porosity will cause oxidation of the underlying substrate. The QC-100 will let you know if your coverage is up to spec. To see how easily the QC-100 performs this function, see Figure 3.



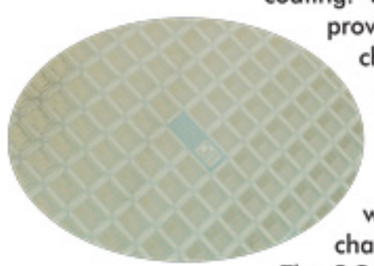
Composition Problems-

The composition of your coating must be scrupulously controlled to protect the substrate. This is where SERA shows its unique usefulness. While other techniques are complicated to perform and expensive, SERA is an easy and economical way to monitor the precise composition of your coating.

With SERA on your team, you'll be well on your way to achieving zero-defects!

Semiconductors

In the manufacturing of lead frames, new coatings are replacing environmentally unfriendly tin/lead. One of them is the multilayered gold/palladium/nickel coating. SERA is an excellent and proven technique for characterizing these new multilayered coatings. It is important to control the thickness of gold to provide the best adhesion with good solderability characteristics.





The QC-100 can measure gold thickness down to 15 Å, as well confirm any coating irregularities or porosity.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP