INSPECTION SYSTEMS for the 21st Century
To **See** is to **Survive**!

In today’s highly competitive manufacturing environment, the ability to see and react to hidden production deficiencies, in order to guarantee a quality process, can mean the difference between life and death!

Visual examination of a solder joint is a vital step in evaluating the quality of a soldering process. It can make the difference between questionable results and total quality assurance.

ERSA recognized this need and engineered the first optical system to visually inspect BGA and other hidden solder joints under the component.
Expand Your Inspection Capabilities: Seeing is Believing!

The revolutionary ERSASCOPE Inspection System 3000 offers a cross-sectional, non-destructive visual image of hidden solder joints by looking under the BGA. At a fraction of the cost of an X-ray system, the ERSASCOPE is a bench-top, user-friendly, safe, and cost effective method for quickly inspecting all types of BGA, MicroBGA, and Flip-Chip components, in addition to many other applications, e.g. interior fillets of PQFP and PLCC components, where a microscope or X-ray fails.

X-ray inspection has established itself as the state-of-the-art for non-destructive inspection of hidden solder joints, particularly those of BGA, CSP, and Flip-Chip components. While revealing many of the possible defects, e.g. bridges, misalignment and voids, other critical defects, e.g. excess flux residue, surface structure, and micro cracking, are more difficult or impossible to detect.

Making a cross-section of the hidden solder joint and evaluating the solderability by examining the intermetallic under a high power microscope will provide a great deal more information about the process. Both this method and a common pull test to evaluate the intermetallic bond or mechanical stability of a joint, are destructive and can be used only on a limited basis.

A proper temperature profile will ensure the production of an intermetallic compound, which is the key to the soldering process. A visual examination of the solder joint after soldering can provide an indication of the temperature reached during the process. A cold solder joint did not receive enough heat to produce the intermetallic compound and will appear matt or dull. A good solder joint has reached proper peak temperature to produce an intermetallic bond and will appear shiny. The presence of the intermetallic is the key to lasting mechanical stability in a solder joint. The ability to determine whether the reflow process delivers quality results, must be a part of the total quality control system!

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No Limits! - Multifunctional Concept for Maximum Flexibility.

The ERSASCOPE Inspection System 3000 with the ImageDoc software was designed to set new standards for quality assurance management. This user-friendly system and software takes the subjectivity out of the quality control and inspection process. The representation of a real-time video image on the monitor can be complemented by numerous pop-up reference images chosen from the image databank revealing examples of both good and bad inspection criteria. A multiple criteria search function makes selection quick and easy for any operator. With the system optically calibrated, height, width, radius, and angle measurements are as easy as a click of the mouse, and as accurate as ±0.01 mm. Exact solder paste print shape, height, and volume measurements extend the capability of the system to cover other critical application areas.

The Automatic Measure Control function displays and stores measurements which exceed established tolerances set specifically by QC, for each type of component and PCB. Whether creating a report, sending it via e-mail, or inserting images, text, and measurement data into the image databank, the ImageDoc software is the perfect tool to guarantee and document Total Quality Control.
For further detailed information on the ERASCOPE Inspection Systems product line, please contact your local official ERASCOPE distributor.

ERSA is a leading manufacturer with the world’s largest range of tools, machines and solutions for the soldering industry. Please visit our website or contact your local distributor for detailed information on:

- ERSA Hand Soldering Tools
- ERSA SMD and BGA Rework Equipment
- ERSA Solder Fume Extraction Systems
- ERSA Wave Soldering Machines
- ERSA Reflow Soldering Machines
- ERSA Selective Soldering Machines
- ERSA Accessories & Know-How Transfer