EN

Test Solutions

S22 series

Bare Board Tester

Seica
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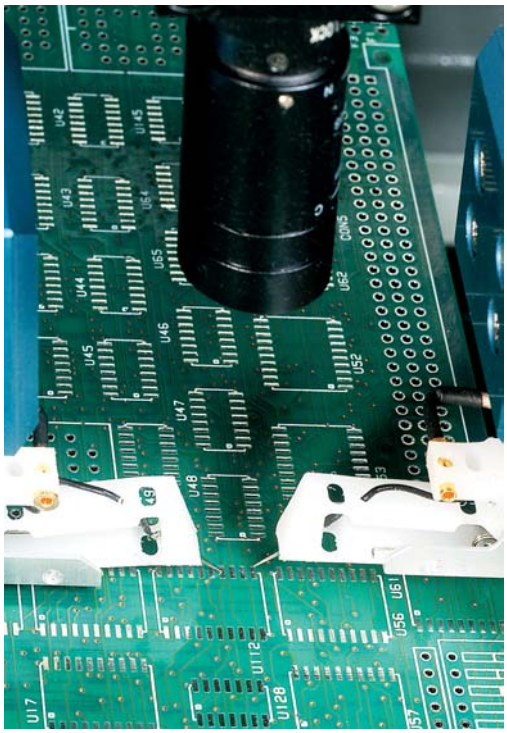
S22 series



S22 BBT is a complete flying probe test system, that can test printed circuit boards (PCB) without having to build any kind of fixture or mechanical adapter.

The system uses four completely independent, mobile test probes to carry out tests on both sides of the UUT simultaneously (two probes on each side). It is particularly **indicated for testing prototypes, samples, small and medium series**, providing maximum flexibility of use to reduce the time and costs of PCB development.

Unmatched technology for test solutions

The architecture of **S22BBT** combines different mechanical and electronic solutions, the result of SEICA's many years of hands-on experience in flying probe system design, to provide the user with the maximum in **speed, reliability and accuracy of electrical tests**.

The combination of air bearing technology on the Y axes, together with the roller-bearing technology on the X axes, optimises the stability and speed of the probe movement. These technologies, used in many other high quality industrial applications, guarantee very high precision and repeatability over time, and reduce periodic maintenance to minimum, making for an extremely reliable and robust system.

The vertical, very compact structure of S22BBT makes it easy to load and test even very large PCBs (up to 610 X 610mm for solutions L and LT) And the reduced footprint makes it easy to fit into any work environment.

The **S22BBT** is available in different versions with different price/performance characteristics (type of motors, test area, etc.); all models have closed loop control of probe positions, guaranteeing high test accuracy and repeatability over time.

Electrical test with automatic multifunctional vision system

The standard configuration of **S22BBT** includes two CCD Cameras with management software that perform:

- recognition of fiducial markers for **automatic centering** of the board. The system is able to identify the position of two or more predefined objects on the PCB before the test starts, then recalculates the test point coordinates on the basis of the actual position of the UUT also considering any "stretching" which may have occurred during the manufacturing process.
- **visualization of the board test points** and modification of test point information.
- **visualization of probe positioning** on the test points during the test and the debug phase.

Furthermore, **S22BBT** is equipped with a " local multiple markers" function which allows the definition of a maximum of 4 fiducial markers for each single figure of a multi-board panel, as well as the use of multiple markers for a single board to improve probe positioning precision on fine-pitch areas.

S22BBT: A unique, full performance Test Platform

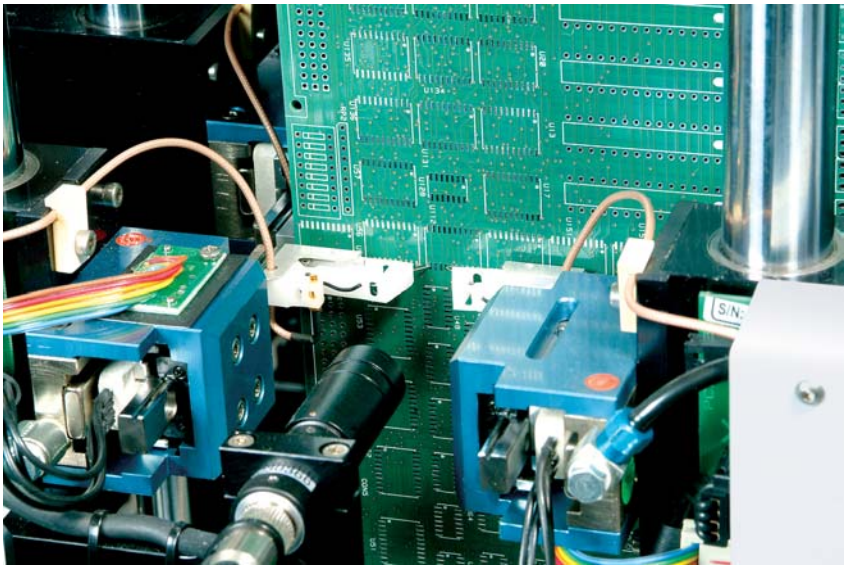
S22BBT can execute different types of electrical measures on any type of printed circuit board thanks to the new algorithms of the management software that minimize test time and ensure complete test coverage of any process errors on the PCB.

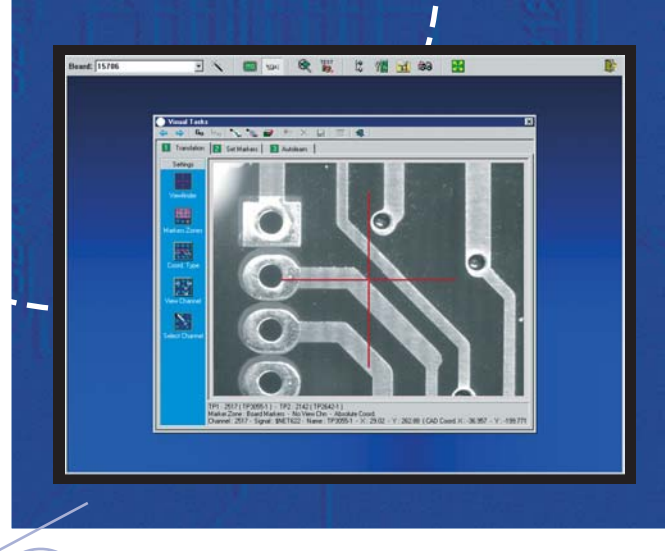
The test performances of **S22BBT** includes :

Continuity test:
- Capacitive method (very high resolution method)
- Ohmic method with programmable resistive threshold

Isolation test:
- Capacitive method (very high resolution method)
- Ohmic Adjacency method using programmable threshold
- Ohmic Adjacency method using high voltage

In-circuit parametric test of embedded passive components (R,L,C)





State-of-the-art software

The new system management software operates under Windows 2000 and is very easy to use thanks to the "Test wizard", which guides the operator step by step, enabling the generation of a new test program in **just a few minutes,** starting from the CAM data in IPC-D-356A format. A complete set of automatic software procedures then optimise probe movements to minimize test time, leaving to the operator only one manual operation, which is the translation of the coordinates of two reference points on the first PCB to be tested. Thanks to the two integrated cameras in the system, the traslation can be performed independently on both sides of the PCB in order to eliminate any problems due to misalignment between top and bottom layers.

S22BBT can easily generate a test program not only for single PCBs but also for panels, using the single board test program as the starting point, then declaring only the "X" and "Y" offsets between the figures in the panel.

To maximize productivity the user can specify areas of the board which need not be tested, for example in the case that defects were already found during a previous process, thus eliminating the need to create different test programs for the same part .

Periodic calibration of the test probes is simple and fast using the dedicated card which is provided with the system.

The system can easily be connected to a local network to simplify data transfer from and to a remote programming/repair station.

Reliable soft-touch probes contact

S22BBT uses three solutions to perform soft-touch probing, leaving virtually no witness marks on the PCB. It is possible to use **different size probes** apply different levels of pressure; **the pressure on each test point can be programmed via software** and the z-axes speed is also programmable, thus allowing full control of the contact force on the PCB.

Additional software performances allow the user to redefine the probes pressure according to board thickness and to "autolearn" the non-planarity of the board under test. In this way the Z height is automatically adjusted according to the area in which the test probes are placed, to obtain a uniform and reliable contact.

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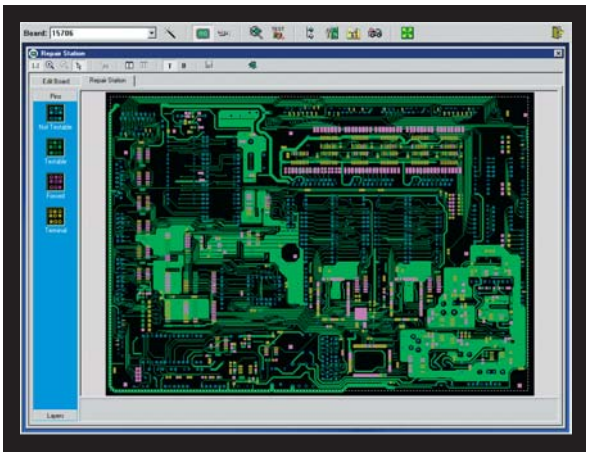
Software repair station and remote assistance

The repair station is a powerful software tool that helps the operator to identify the position of the failing net on the board, and **includes statistics functions and procedures for the retest of the failures**.

The repair station, which is fully integrated in the management software, can be used as a stand alone station or in a network configuration. A graphical environment shows the operator the tracks of the tested board with the relative internal layers and identifies the precise location of the defect with a flashing cursor; and **all of the statistical information of the executed tests is stored in a file**. The repair stations can be networked directly to the test system, which can be equipped with a MODEM for remote service support ; in this way Seica service engineers can provide immediate assistance to the customer for diagnostic operations and during the preparation of test programs.



"Split test" from/to grid testers

With **S22BBT** it is possible to test only some selected areas of a PCB, for example fine pitch or BGA component areas simply by a click of the mouse while the remaining part of the circuit can be done on a traditional bed of nails System; if required, the **S22BBT** software can generate the input files for the bed of nails systems.

The "split test" includes the continuity test for all the nets that have at least one terminal point inside the declared area, and the isolation test for the nets included entirely in the selected area.

Authorized dealer

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