



Rocket science, star mapping vision algorithms and common sense for uncompromising probe card tester performance

Oscar Beijert, Beijert Engineering, The Netherlands



Beijert Engineering Manager IV Probe Card Tester

Beijert, the world nr. 3 in probe card testing.
<http://www.probecardtester.com>

Building on European technology and design, to make it faster and easier for you.

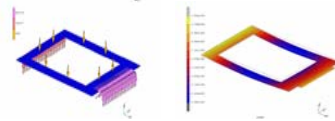
- ITC conventional camera and Z-stager
- API Optical planarity testing

Combine the best of options,
Make it better, make it easier.
Speed, Accuracy, Ergonomics

Use rocket science,
star mapping vision algorithms and
common sense for uncompromising performance.

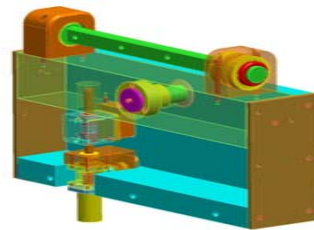
Stiffness, stability and light handling with 2,3 inches carbon flip table and 600 lbs granite

10,000 probes put on a lot of force. Still you want to measure the exact positions and not the flexing. A laminate carbon flip table is both extremely stiff and the lightest to handle. At 100kgf no more than 10 μ m displacement. On top of a large block of granite we also get a maximum of stability.



Rework on the fly With ergonomic flip table

Our system is developed with both Fabs and probe card manufacturers in mind. The probe under investigation can be flipped within seconds between rework and testing.



Level playing field With motorised tilt & automatic motherboard adjustment

No two motherboards are the same. Once identified the automatic tilt levels the playing field.

Make a wrong reference file history with RFID card recognition

Minimize possible operator errors.
Automatically log card
statistics in the database.



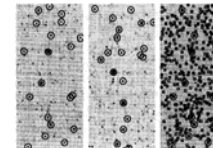
No time to waste, With embedded vision processors

Massive image data from the over 10000 pin measurement requires massive computing power. With FPGA DSP processors and smart camera's we can process images in real time on the camera, reducing overall data transfer overhead and reducing total test time. By incorporating a state of the art lighting control module and algorithm inside the camera low integration times are reached to increase the total frame rate to allow on the fly real-time probe card measurement. So calculation does not increase the test time.



The sky is the limit With star mapping software,

Theoretical informatics does provide useful solutions. We were happy to adopt the state of the art solution to pattern matching of the firmament to the mapping of our pin positions.



Advanced relay board of 125 I/O, 3 standard plus additional voltage

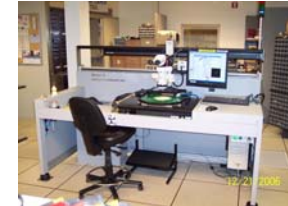
Any relay driving voltage at your own taste.

Conclusions

A stiff base for uncompromising flexibility
Workable and fast for the state of the art probe card analysis.

Specs:

- 150 kgf card force
- Carbon composites
- 300 x 300mm planarity in 60 sec,
Alignment in 90 minutes for 100,000 probes
- Embedded FPGA DSP vision processing speed
- Star mapping science
- Diamond viewing window for air and scrub images
- RFID tags
- Any relay voltage
- Over 20,000 I/O pins



Literature cited

Vicky Choi, Navin Goyal. 2006. An efficient approximation algorithm for point pattern matching under noise. arXiv:cs.CV

Francisco G. Valdes a.o. 1995. Focas Automatic Catalog Matching Algorithms. Publications of the Astronomical Society of the Pacific.

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www.quest-innovations.com

Paul Mars, Mars Management Science.

For further information

Please contact oscar@beijert.com or additional information.
Or look at www.probecardtester.com for more information

