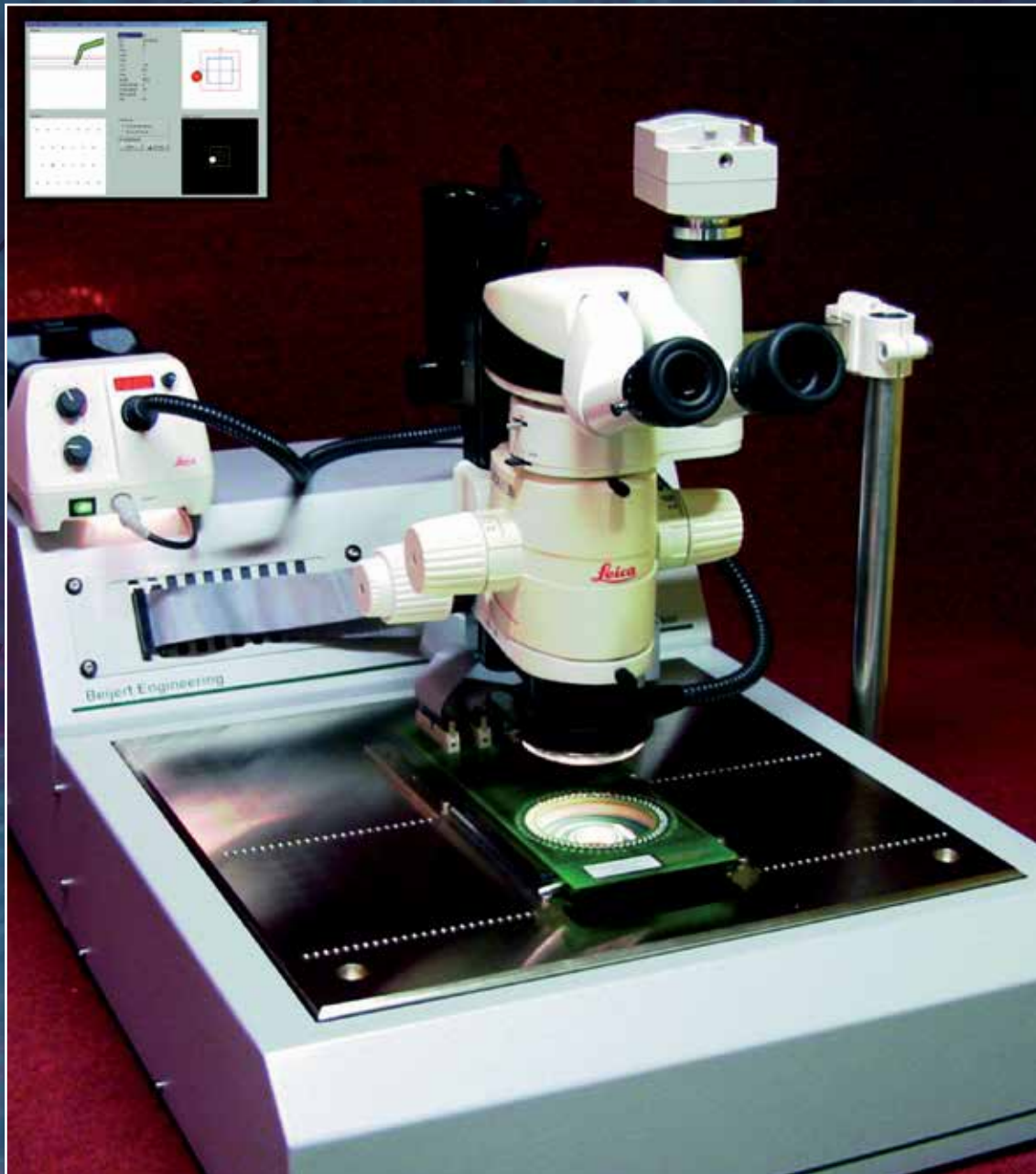
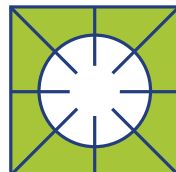


# SUPERVISOR IV

PROBE CARD ANALYZER AND MANAGEMENT SYSTEM



BE probe card test solution  
PT for the semiconductor industry



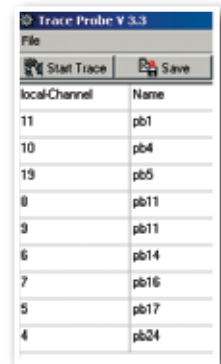
**BE** Precision  
Technology

# SUPERVISOR IV

## INTRODUCTION

Yield problems and inconsistent test results? The probe card is a crucial part of a wafer test set-up. The probe card is the mechanical interface between the test system and the bond pads on the wafer.

Probe tip misalignment, high contact resistance, and signal leakage will cause inconsistent test results and/or even rejects. Eliminate this variable by using the Supervisor IV to analyze and manage the probe-card physical and electrical condition.

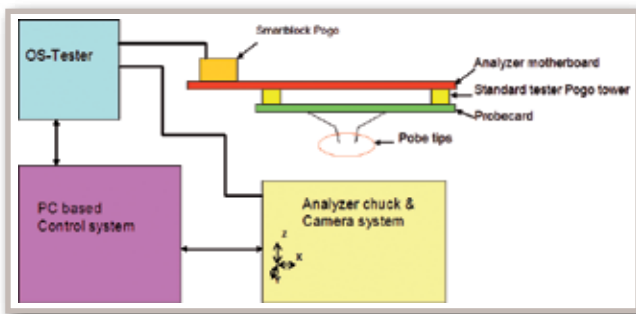


local-Channel	Name
11	pb1
10	pb4
19	pb5
8	pb11
9	pb11
6	pb14
7	pb16
5	pb17
4	pb24

## YOUR PROBLEM IS OUR CHALLENGE

The Supervisor IV informs you quick and accurate on the condition of your probe cards. Physical check of the probe tip locations in 3-D [X-Y-Z] generates a detailed status report and necessary repair instructions. Electrical verification informs you about the contact resistance throughout the entire probe-card all the way to the probe-tip as well as the leakage between the probe-tips and their connections.

## SYSTEM DIAGRAM



### [ NOTE ]

Edge connector type probe cards can be connected without a analyzer motherboard, tester pogo tower and smartblock pogo. The connection goes directly on the edge connector.

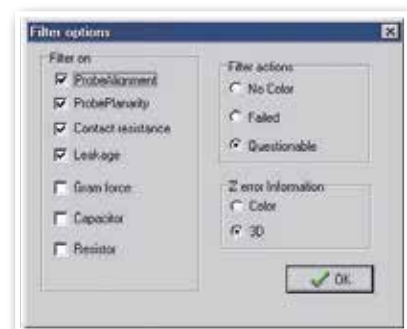
## SUPERVISOR IV OFFERS:

### Physical Verification:

- X/Y position by HD camera; Air image and Scrub image
- Z (planarity) by electrical contact (first-contact full-contact)
- Contact force per pin and force for entire card

### Electrical Verification:

- Contact resistance from tester connection point to probe tip
- Leakage measurements probe tip conditioning
- Reshaping
- Cleaning



## EASY OPERATION

Supervisor IV comes with easy to use software. Adding probe cards to the system can be done by self-teaching or importing probe card design files. Tools like **Trace Probe** provide easy and fast probe card file creation.

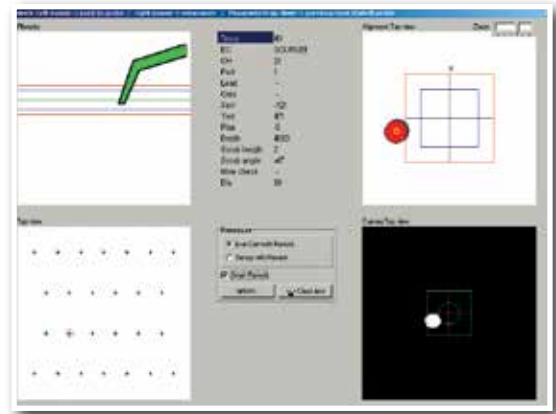
When the analysis is complete the software indicates pass/fail with a **traffic light** icon. Defective cards repair has now become a more efficient job by easy repair functions support.

# PROBE CARD ANALYZER

## CONTACT FORCE

Supervisor IV offers two options to check:

- The contact force (gram force) measures all probes in one movement and calculates the average value
- Measure each individual probe, linearity, gram force and spring rate motherboard with contact blocks for easy connections



## GRAPIC DISPLAY

Supervisor IV provides a clear, easy to read display for all individual probe specific parameters.

## SUPERVISOR IV AS A PRODUCTION TOOL

Although Supervisor IV has considerable measurement and analytical capabilities, Supervisor IV has been designed from the beginning to serve as a verification system. Its primary purpose is to ensure the integrity of probe card assemblies and verify that they are ready for test. SPC characterization before and after wafer sort will also allow analysis of probe card performance characteristics and facilitate correlation to test yield.



Chan	Card	Trace	Pad	X-ref	Y-ref	@ Cres	Leak	Cres	Plan	X-err	Y-err
20	pr 1	PD5	Vcc	-3000	-2000	100	1	236	5	5	2
27	pr 2	PD9	s1	-3000	-3000	150	0	213	3	-2	4
5	pr 3	PD23	s2	-500	-750	200	1	198	6	1	2
3	be 1	PD17	s3	10	10	250	1	210	-8	3	-5
22	be 2	PD1	s4	1000	-2000	300	2	239	3	-4	-16
25	be 9	PD2	d1	2000	3000	350	1	587	0	8	19
26	be 9	PD3	d2	-1000	100	400	1	137	2	-12	3
21	be 10	PD4	gnd	1000	1500	450	1	149	1	2	8

## CLEAR REPORTS

Supervisor IV provides clear test reports in the universally familiar MS Excel format. Reports can be displayed to the screen and used as input for the BEPT Analyst SPC software.

## SUPERVISOR IV HIGHLIGHTS

- Fully automated probe-card analyzer
- Up to 4" X 4" large probe-cards for alignment check
- Neural software evaluation of probe tip characteristics
- Motherboard with contact blocks for easy connections
- Imports industry standard data files
- Server Attached Systems (SAS)



For all types of probe cards up to 1,000+ contact points

# TECHNICAL FEATURES

## SYSTEM DESCRIPTION

### Computer

- Tower case PC (current model Pentium)
- 21" TFT color monitor
- BE-Precision Technology proprietary interfaces

### Software

- Microsoft Windows® XP/7
- Microsoft Excel (spreadsheet and database)
- BE-PT Manager III executive system
- BE-PT System diagnostics
- BE-PT System calibration software
- BE-PT SPC Analysis Software

### Measurement center

- All measurement electronics and I/O connections are contained in the system kiosk
- The measurement center comes as standard with 750 channels
- Mechanics are mounted on a rock solid base, both probe card and motherboards are mounted onto a comfortable table

### Different models available

- Standard for small probe cards (4" to 6")
- XL for large probe cards (4" to 8")
- XXL for large probe cards multiple die (4" to 12")



Galvaniweg 10<sup>b</sup> • 8071 SC Nunspeet • THE NETHERLANDS  
Telefoon +31 (0)6 218 002 34 • info@probecardtester.com • www.probecardtester.com

**SUPERVISOR IV** is a registered trademark of BE Precision Technology.  
All specifications are subject to change without notice.  
Windows and Excel are registered trademarks of Microsoft Corp.

**SUPERVISOR IV** is manufactured by BE Precision Technology Rev.11-10.11  
Patent Pending

## MEASUREMENT DESCRIPTION

- Contact resistance: 0-9 ohms, 1 milli ohm resolution
- Leakage: 0-300 nano-amps, 0.1 nano-amp
- Planarity travel: 10 or 20 mm 0.1 micron resolution
- Alignment travel: FOV 1 X 1 inch (X & Y) 0.1 micron resolution
- Gram Force: 1-30 gram 0.1 gram resolution
- Motherboards: up to 18 inch square

### Options

- Expandable PMU channel up to 10,000
- Powerful Z-stage lift to 100 Kg
- Hot chuck/bussed probes, Relay control board
- LCR components board
- Microscope Leica/other configurations
- N.I.S.T. calibration card
- Ultra low leakage measurement parametric probe cards
- RF tag inventory control system
- Auto fine leveling for different probe card platforms

### Operating environment

Temperature 20-23 degrees Celsius (65-75 °F)  
Humidity 30-50% RH  
Mains voltage 120 VAC 60 Hz or  
220 VAC 50 Hz.

### Weight and dimensions desk

Dimensions 31 X 84 X 60 CM  
(Height X Depth X Width)  
Weight 70 Kg including PC and belongings

### YOUR LOCAL SALES CONTACT

Complete Probe Solutions Inc.  
9175 Crest Hill Court  
Gilroy, California 95020  
Telephone: +1 (408) 755-5567  
FAX: +1 (408) 413-5290  
E-mail: sales@completeprobesolutions.com  
Website: www.completeprobesolutions.com